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Gout in Poultry.

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Gout has been defined as a disease in which there is an increase in the uric acid content of the blood and the deposition of uric salts in the joints and various organs. During the past few years we have met with 100 cases of this disease among poultry and the information we have obtained regarding them is of considerable interest.

OCCURRENCE.

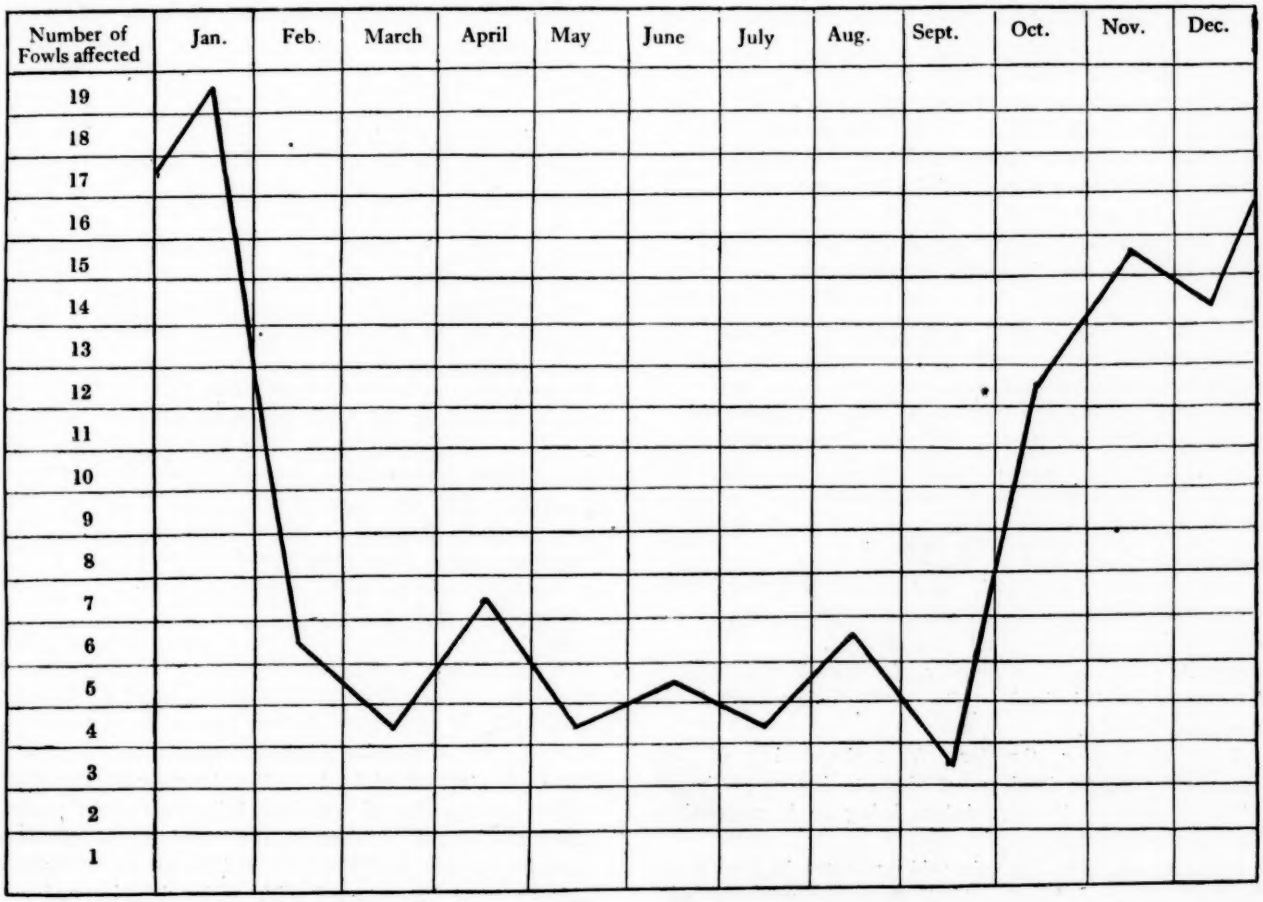
The disease, as seen by us, has been confined to hens or pullets and cocks, and to turkeys, but it is recorded as having been observed also among other birds. The fowls among which the disease appeared were kept under semi-intensive conditions and among the hens the diet was conceived to give the best results in egg-laying. Among the cocks and, in some cases of the affection, among the hens the disease seemed to affect only one bird in a flock, but in other instances a varying proportion of the flock was involved and the mortality was serious.

The season of the year seems to have some bearing on the incidence of the disease, as indicated by the accompanying chart.

The cases were much more frequent in October, November, December and January, *i.e.*, in the cold wet seasons, and it has been suggested that this may be related in an indirect way to the production of the disease from the effect it may have had in inducing the birds to keep to their pens and avoid exercise.

ETIOLOGY.

Even where considerable losses are being sustained and illnesses from this cause are common, only a certain proportion of the birds become affected and the distribution is very irregular throughout the infected pens. In the outbreaks which we have investigated we have been unable to ascertain any evidence of primary or secondary infection. The disease has not been set up by contact or by inoculation of any of the tissues into healthy fowl. That observation would suggest that gout must be related etiologically to some other factor or factors. The factors which seem to render the bird liable to the affection include (*a*) a highly nitrogenous diet, or a diet rich in proteid substances, *i.e.*, materials which during their katabolism can be got to yield large quantities of uric acid or urates or purin compounds from which they may be derived, and



DEPT. OF VET. MEDICINE

(*b*) any circumstances which will delay the removal of the uric acid or its salts by the kidneys. With regard to (*a*) it has been noted that the diet in the various cases investigated has varied a great deal. In one outbreak the food consisted of a daily ration of four parts of pollard, two of bran, two of maize, and one of fish meal. To this was added, after the sickness had started, one part of crushed oats *plus* green vegetables. There was ample grit and oyster shell. The composition of the fish meal was: albuminoids, 60 per cent.; phosphoric acid and calcium phosphate, each 18 per cent.; oil, 5 per cent.; salt, 4 per cent. In this outbreak, of 500 birds, 93 birds became ill, of which 32 died and the others recovered after a varying time.

An interesting commentary on this outbreak was that a large number of poultry fed on the same food in the same farm remained healthy, but there were two differences in the matter of feeding and exercise. In the first place, the unaffected flock received scraps and green food which amounted to one-quarter of the total amount of food, and had to fight for their food, and in the second place they had large open runs and ample scope for exercise.

In another outbreak among 180 pullets and hens, where one or two were being lost daily, the food comprised bran, pollard, Indian meal, alfalfa, fish meal, wheat, oats and barley (sprouted), besides oatmeal or biscuit-meal and a good supply of clover, ryegrass and cabbage. Alfalfa was being used for the first time.

In a third outbreak among 80 hens the diet consisted of dry mash composed of pollard, bran, Indian meal with sour milk and water to drink and for the previous three weeks the fowls had been given a wet mash at noon of the same mixture.

In a fourth outbreak in which five hens in a flock died the diet consisted of grain and maize only. In a fifth outbreak out of 50 birds three died and several were ill. The food consisted of scalded maize, "green stuff" and grain. In a sixth outbreak, eight hens had already died and the disease had appeared irregularly in the pens. Fish meal was used in the diet, but it is stated that the proportion was less than one in ten of the whole food. In a seventh outbreak, three hens had died and the diet consisted of: cracked oats, 2 lb.; pollard and bran, āā, 7 lb.; as well as potatoes and house scraps. In another outbreak one pullet died and the other birds were not doing well. The diet consisted of pollard, 4 parts; bran, 2 parts; Indian meal, 1 part; oats, 1 part; fish meal, 1 part. The food was left with the birds and, in addition, a dry mash was given in the morning and a wet mash in the evening consisting of 2 ounces of oats and cracked maize āā for each bird.

In another case one fowl, which was kept under observation for several months on account of paralysis, was fed only on oats and bran, and died of gout.

In other cases quite a number of cockerels and turkeys have been affected singly while the other in-contact birds remained healthy.

It would appear, therefore, from the variety of diet associated with the development of gout, that no particular kind of food can be regarded as being solely responsible for the condition.

It is realised that the uric acid or urates in gout must be derived, as in health, chiefly from the nucleoproteins either of the food or the tissues. These nucleoproteins are contained in cell nuclei of animal or vegetable origin and they are broken down during digestion into protein and nucleic acid and by hydrolysis the nucleic acid is katabolised into purin and pyrimidine bases and other substances. When formed from the tissue-elements, the cell nuclei are broken down by ferments in the spleen, liver and other organs and by them guanin and adenin, hypoxanthin and xanthin are formed and later converted by oxidation into uric acid. In the case of food, uric acid or its salts are derived from the xanthin and hypoxanthin in meat and fish products, and to a lesser extent in certain vegetables. It will thus be seen that uric acid in the animal economy may be derived both from exogenous as well as endogenous sources and from both or either of these sources the uric acid deposits in gout must originate.

One might, therefore, take it in a general way that there are at least four factors which might account for the condition:—

1.—An increased production of uric acid by the katabolism of the animal tissues.

2.—An abnormal production of uric acid derived from the nucleoproteins or the purin bodies in the food.

3.—A decreased solubility of the urates present in the blood.

4.—Some defect in the elimination of uric acid in the urine.

It has, of course, to be kept in mind that, as compared with mammals, the chief nitrogenous constituent of the urine in birds is uric acid and not urea, and it has been shown that birds can also synthesize uric acid from urea, ammonia salts or aminoacids. We have no evidence of any hereditary diathesis for gout among poultry nor of any relationship in our cases with lead poisoning.

Symptoms.

In the cases which have come under our observation there were no external symptoms of so-called articular gout, such as lameness or swelling of the joints of the toes.

In many of the single cases no definite symptoms have been associated with the disease. The birds have simply been found dead without apparent cause, while the other fowls fed on the same diet remained unaffected.

In outbreaks, the symptoms usually shown were as follows: the fowls became dull and moped about; they ceased to feed or fed badly and hens often ceased to lay or did not lay well; the feathers were ruffled; the comb and wattles became dark red or almost black and the crops were full or distended with food; sometimes there was marked thirst. In some there was a greenish diarrhœa, while there was constipation in others. The course of the disease varied greatly. Death often occurred within three or four days.

In the cases which recovered, recovery was very slow and the appetite remained very poor for a time, but the birds showed some relish for green food during convalescence.

Post-Mortem Examination.

On examination of fowls and turkeys dead of gout the lesions or deposits of urates varied greatly. In extreme cases the serous membranes, the walls of the air sacs, even the substance of the liver and spleen as well as the kidneys were impregnated with white deposits and even

the diarthrodial joints of the wings and legs contained considerable deposit of this material. The mucous membrane of the intestine, the duodenum diffusely and the rest of the intestines in patches, was deeply congested. The pericardium was frequently covered internally and over the epicardium was a thick white layer which caused the pericardium to adhere closely to the heart. The peritoneum was also not infrequently covered with a thin white layer of deposit, particularly over the liver, proventriculus and other organs as well as the mesentery, and such deposits were occasionally noted on the walls of the air sacs. When the liver and spleen were involved, little white specks were scattered through their substances. The affected kidneys were swollen, pinkish white and as soft as brain tissue. Their substance was dotted with white spots and streaks and sometimes the ureters were distended with thick white urine. In the joints of the legs and wings there was no outward change and the cartilages and synovial membranes appeared to be normal, but not infrequently white glutinous material like white paint was present in the joint capsules in varying amounts.

In light cases the changes were chiefly confined to the kidneys.

Chemical Examination.

Mr. B. G. Fagan, B.A., B.SC., F.I.C., Public Analyst for the City and County of Dublin, kindly analysed the white material found in these cases and has reported as follows :—

Appearance—Gelatinous.

Microscopic Examination—Amorphous.

Ignition—Burns, leaving residue.

Residue on Ignition—Strongly alkaline ; effervescent with HC1 ; strong sodium flame ; contained phosphate and also trace of calcium.

Original Material—Did not effervesce with dilute HC1. Gave muroxide test. Trace of ammonia evolved in cold with NaOH. Did not contain Xanthine.

The indications from this analysis are that the substance is mainly a urate of sodium containing traces of calcium phosphate. The ammonia may indicate the presence of a trace of ammonium urate or it may have been due to the decomposition of slight traces of contaminating organic matter.

The gelatinous nature of the material suggests that it belongs to the class known as " quadri urates " with a composition NH ($C_5H_2O_3N_4$) H_2 ($C_5H_2O_3N_4$), but I could not prove this.

The material is crystalline if kept perfectly dry, but readily assumes a gelatinous character if not.

In this case, however, there was nothing beyond the gelatinous nature of the material to indicate that the material was a " quadri-urate." It failed to answer two tests to which I put it. The analysis at least shows that, whether the material consists of quadri urate or not, it contains sodium urate with a trace of calcium.

Microscopic Examination of Affected Organs.

To note whether any damage was done to the tissues in which the urates were deposited, sections of affected kidney, liver and spleen were prepared and examined. Stained with von Kossa's silver stain the sections showed no evidence of deposit with calcium salts.

In all cases examined the kidneys presented very marked changes to the naked eye, but on microscopic examination the changes varied in extent and degree. In every case examined there was some degree of nephritis. In the first place, small cells and salts appeared in some of the glomeruli and proximal extremities of the uriniferous tubules. Later, these deposits became consolidated and infiltrated with round cells at their periphery. Their centres were often free from nuclei and fine crystals radiated outwards like fibres from the centres. There was some evidence also here and there of the breaking down of the nuclei. These deposits represented the white specks which could be seen with the naked eye dotted through the substance of the kidney. Some of the remaining uriniferous tubules were in a state of catarrh and the epithelial cells often presented degenerative changes. Albuminous casts were also noted here and there in the tubules. In sections of liver and spleen showing white spots to the naked eye deposits similar to those in the kidneys were observed.

It is probable that the urates in some form acted as gradual and slight irritants during their excretion and this brought about inflammatory changes which impeded to some extent their further excretion, with the result that they were held back in the blood and deposited elsewhere as on the serous membranes, liver, spleen and joints. The inflammation of the intestines might also be due to the irritation of products held up by the kidneys which the intestinal mucous membrane has attempted to excrete.

From the facts which have already been set forth, there remains to be decided what part the feeding and management play in the production of gout, and experiments on these lines have been undertaken, the results of which will be reported on when completed.

From The Veterinarian,

March 1st, 1831.

Ne quid falsi dicere audeat, on quid veri non audeat.—Cicero.

On the first of last month the annual dinner was given by the pupils of the Royal Veterinary College to their Professors, Examiners, and Medical Teachers : Sir Astley Cooper occupied the chair. We do not recollect to have seen a larger assembly of the great men, nor a more respectable class of students. The dinner was excellent ; the wine was good ; and the stewards were indefatigable. The speeches were of the usual character—almost *verbatim* what they have been for many a year, except that there was nothing to give offence. The language of the Chairman, the Professor, the Examiners, and, indeed, of every one who addressed the assembly, was moderate and conciliatory ; and, indeed, so pleasantly did every thing go off until the greater part of the visitors had quitted the table, that a very eminent lecturer observed to the writer of this article, that he had never before attended so well-conducted a medical dinner. The repetition, however, of thrice-told stories, even to those who were once actors in these scenes, would be tedious ; and we will, therefore, refer to the last two volumes of our Journal for a tolerably faithful picture of what was said and done, with the pleasing and satisfactory exception to which we have alluded.

A farmer was fined £20 at Romford for removing 210 sheep from North Wales to Upminster without informing the authorities, and for failing to double-dip them. It was stated that the defendant had rendered himself liable to a fine of £2,700.

Some Possible Factors Associated with the Parathyroid Deficiency Theory of the Ætiology of Milk Fever.

By W. P. Blount, M.R.C.V.S., Derby.

During a review of some of the recent literature concerning physiological experiments, the writer was struck by the possible association between some of the results of these experiments and the parathyroid deficiency theory (Dryerre and Grieg) of the ætiology of milk fever.

Udder Inflation.—Vincent and Thompson (1928) demonstrated that by kneading the skin of decerebrate cats mixed vaso-motor responses were elicited—some pressor, others depressor; but after thyroparathyroidectomy only pressor responses occurred, so that the previous depressor action became pressor, and the previous pressor action became augmented and exaggerated. They believe that the normal pressor response of tissue stimulation is due to the liberation of an autocoid substance, and that one of the functions of the parathyroid gland is to exert an inhibitory control over this mechanism. It would appear possible, therefore, that one of the effects produced by mammary insufflation in milk fever is to liberate a quantity of this pressor hormone into the general circulation, which should be followed by a rise in the blood pressure. It follows that when dealing with cases of parathyroid deficiency the greater the stimulation of the skin the greater the pressor response; this is not contrary to the findings of certain practitioners (Chambers, etc., 1929) who believe that the tighter the udder is inflated the better chance there is of recovery from milk fever. It may also explain the *rationale* of the application of strong liniments to the skin of the back in this disease.

Hink (1930) appears to have discovered the clinical association of these findings when he says that "it is the result of the vaso-motor excitation which produces the disease" (milk fever).

Bischoff (1930) had the curious experience of observing large doses of parathyroid hormone produce a *fall* in the calcium content of normal dog's blood, which effect is quite contrary to the usual interpretation of the function of the parathyroid glands.

Fœtal and Amniotic Fluid Calcium Contents.—Collip (1927) found high values for the serum calcium of 94 fœtal calves, varying between 11·3 and 17·1 mg. Ca. per 100 c.c. serum, average 14·76. (Normal Ca. content of adult cow at the end of pregnancy=*circ.* 9 mg./100 c.c. serum.) This is probably one reason why a negative calcium balance is frequently observed in the later stages of pregnancy; and also probably why McIsaac found that 7-10 days before parturition (rabbit) there was a fall in the serum calcium, and that on the day previous to parturition this fall was accentuated so that there was a sudden fall to a minimum. Curiously enough, about the 19th day of lactation a second fall was observed from the previously attained normal level, which may explain why some cattle appear predisposed to milk fever after several weeks after parturition when they previously survived the dangerous few hours associated with the commencement of lactation.

Collip's most interesting results concerned the calcium content of *amniotic fluid*, which showed enormous variations, from 5·1 to 31·6 mg. per cent. (average 8·7 mg. per cent.) Ca. which values apparently had *no* relation to the blood calcium content. This attractive statement may perhaps explain one of the many little understood predisposing factors in milk fever, if we can assume that the uterus may possess disturbed functions concerning the ability to secrete amniotic fluid with a high percentage of calcium. Whilst this fluid is retained in the uterus it is possible that some equilibrium is established between it and the blood stream, but at parturition, with the consequent loss of gallons of fluid rich in calcium, the animal sustains heavy drainage of this element. The writer is not aware of any investigations concerning the mineral content of the amniotic fluid at parturition of cattle afterwards suffering with milk fever.

Toverud and Toverud (1929) found that bitches fed on a diet deficient in calcium, phosphorus and vitamins A and D, developed tetany during the nursing period, and that the progeny of such animals showed evidence of rachitis. It was also ascertained that these dogs had lost 12 per cent. Ca. from their metatarsals during the negative calcium balance period of their respective pregnancies.

Artificial Production of Milk Fever.—It is well recognised that to confirm the theory of parathyroid deficiency as the cause of milk fever it will be necessary to reproduce the disease experimentally and then cure it by rational treatment. This has not so far been accomplished, but Tsai and Shu (1930) found that the intravenous injection of sodium oxalate caused a marked fall in the calcium content of normal and thyroparathyroidectomised animals, when tetany had previously been prevented by the use of sodium lactate. The same authors (1929) found that intestinal putrefaction (particularly of the large intestines) induced experimentally was not an important factor in the tetany of parathyroidectomised dogs.

Treatment of Milk Fever.

Jones and others (1930) have by the administration of irradiated ergosterol been able to keep alive, indefinitely, thyroparathyroidectomised dogs, and also prevent the associated tetany. This is due to the property which ergosterol (irradiated) possesses of producing hypercalcæmia in normal and thyroparathyroidectomised animals. Here we have possibly one of the substances to be used in the prophylactic treatment of milk fever.

Those practitioners who believe in the use of saline injections in milk fever may obtain satisfaction from the findings of Waggener (1930) who successfully treated parathyroid tetany of frogs by replacing 2-3 c.c. of blood by warm sodium chloride solution (subcutaneously).

Hart and others (1929) found that neither the feeding of ½ lb. of potent cod liver oil, nor the use of alfalfa hay (considered rich in calcium) was effective in preventing the negative calcium balance in lactating cows. It was shown, by making an extract from the fæces of the cows with ether and feeding chickens (on a vitamin D deficient diet) with this extract, that the cattle had not absorbed the oil. This emphasises the knowledge that small doses of cod liver oil are as effective as, if not more so than, large doses—a fact seldom appreciated by laymen.

Robinson and others (1929), as a result of their investigations concerning the ingestion of certain calcium salts and lactose found that about 10 per cent. Ca.Cl., 50 per cent. Ca. lactate, and 20 per cent. of the Ca. and P. of bone meal were retained by the animal; in the last case

the addition of lactose doubled this percentage. Ca.Cl. was seen to increase the excretion of phosphorus, which, considering that the blood phosphates are uniformly and consistently lower in milk fever (Fish, 1929) than in normal "dry" or pregnant animals, suggests that it is not an advisable salt of calcium to use in the treatment of the disease.

Subnormal Temperature.—This typical feature of milk fever is explained in part by Viale and Kuri (1928), who found that the thyro-parathyroid apparatus (more especially the parathyroids) plays an important part in the production of hyperthermia following injections of saline or adrenalin. The failure to produce a rise of temperature in parathyroidectomised animals is related to the low blood calcium.

Post-mortem.—Elkourie and Larson (1928) found that guanidine poisoning did not produce congestion of the viscera, but that this (congestion) was the distinctive feature of parathyroid tetany. Hutyra and Marek (1913) give as one of the findings at autopsy in cases of milk fever: "The abdominal organs appear more filled with blood than those of other organs."

Calcium Ions.—Brull (1930) states that the calcium of the plasma exists in at least three forms (1) crystalloid, partly ionised (5 mg. per cent.); (2) colloidal calcium (3-4 mg. per cent.), and (3) complex non-ionised diffusable calcium ($\frac{1}{2}$-mg. per cent.). The first two are considered to be in a state of equilibrium, with the colloidal form as a reserve store, and the third type is not used by the animal but excreted by the kidneys.

Hertz (1930) found that the parathyroid hormone raised the non-filterable calcium more than the filterable. He also found that dogs on a diet composed of meat possessed a higher percentage of ultrafiltrable calcium than when fed on carbonaceous foods.

Adrenals.—It is known that one of the functions of bile acid is to reduce the blood sugar. After adrenal extirpation bile acid secretion increases (Murakami, 1928) and hypoglycæmia results, due to the absence of adrenalin to antagonise the acids. Milk fever is frequently associated with the presence of an "easy calving" where there is presumably little emotional reflex secretion of adrenalin; and if bile acid secretion were increased, hypoglycæmia would ensue. Hypoglycæmia is not a constant feature of milk fever, but perhaps in those cases where it is present the above mechanism initiated it.

Morvish and Bosma (1929) have shown that the injection of an alcoholic extract of ox suprarenal cortex lowers the blood calcium in rabbits about 30 per cent., which effect they believe to be identical with the calcium reducing hormone of the ovary and corpus luteum. When any future cases of milk fever end fatally it might be advisable to examine histologically the adrenal as well as parathyroid glands.

Eclampsia.—Stander and others (1929) found that in eclampsia the pH of the blood had fallen from the normal pregnancy level of 7·37 to 7·04—an uncompensated acidosis, due to the presence of lactic acid.

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Calmette states that in cities and districts of France, in which nearly all the new-born are vaccinated against tuberculosis (B.C.G.) the infant mortality has decreased from 40 to 50 per cent., and that the same observations have been made in Roumania, Greece, Belgium, Uruguay and other countries. An excellent showing for B.C.G. vaccination, but Berghaus rather spoils it by showing that infant mortality in Baden decreased 55 per cent. during the same period where no B.C.G. vaccination has been performed. The death rate among children is only 1·9 per cent. from tuberculosis, whereas between the ages of 15 and 30 years, the tuberculosis mortality is 35 per cent. of the total mortality in Germany for those ages.—*Veterinary Medicine.*

Dietetically fish fall into two classes, lean fish and fat fish, the latter containing oil distributed among the flesh instead of being concentrated in the liver. Salmon, herring, sprats, mackerel, cat-fish, sardines, salmon trout, and lake trout, are the most common fat fish: they are a little less digestible than the lean fish, but provide more nutriment, weight for weight. The fat fish also contain vitamins A and D. Fish is best cooked in such a way that the juices are retained, *e.g.*, by grilling, frying, or steaming between two plates, rather than by boiling, the reason being that it is much richer than meat in soluble nutritive and flavouring substances which may be lost in cooking water. Fish is a food that should be eaten as fresh as possible: select those specimens which have a firm flesh, adherent scales, and stiffness of body. Round fish should be chosen for girth and flat fish for thickness, medium-sized fish being better than very large or very small ones.—*Jour. Inst. Hyg.*

Treatment of "Tremblings" in Sheep.

Farmers and the Use of Calcium Gluconate

Mr. G. C. Lancaster, F.R.C.V.S., of Skipton, Yorks., whose comment on the matter we reproduce below, forwards us the following extract from the *Craven Herald* of March 6th:—

"Further investigations into the cause of tremblings, a disease which affects lambing ewes, were foreshadowed at a monthly meeting of the Craven Tenant Farmers' Association held at Castle Chambers, Skipton, on Saturday.

"The question arose following the receipt of a letter from Professor R. S. Seton, of the Department of Agriculture, Leeds University, with reference to an invitation from the Association for Colonel Bowes to address the meeting on tremblings in ewes. It was stated that Colonel Bowes had expressed his intention of visiting Craven during the Spring if he had the opportunity of carrying out further tests on farms with the calcium gluconate treatment.

"In a further letter it was stated that Colonel Bowes wished to know if six farmers were prepared to undertake to let him know by telegraph or telephone when they had cases of tremblings. He would then be able to see the cases and administer the gluconate, and show the farmer how the injections were made, and leave the syringe and a supply of gluconate with him for the treatment of future cases. It would be no good seeing farmers beforehand and giving them the syringe and the material, the letter continued, because, in the first place, those particular farmers might not have any cases of tremblings and, in the second place, the steps to be taken with regard to the treatment had to be explained in order to ensure the successful use.

"Mr. J. S. Hagar (vice-president of the Association) said that Colonel Bowes visited his farm last year and saved the lives of three sheep and three lambs. He had kept one of the animals throughout the winter to see whether or not the treatment would have any effect on the health of the animal, but it was perfectly healthy. He would be quite willing to allow experiments to be carried out on his farm.

"Mr. J. Robb (the University's agricultural lecturer in Craven) said the great difficulty was that Colonel Bowes was such a distance from the locality of the outbreak, and he expressed the opinion that time was an important factor in the curing of tremblings. To his mind, the delay that inevitably had occurred last year was the reason why there were so few successes. He thought that the best way for a prompt cure was to have the treatment applied locally and, if possible, by the farmers themselves. Recently, he had a message from Carleton that certain sheep were down. He sent for Colonel Bowes, and a reply was received that Colonel Bowes was unable to come until a few days after. If the medicine for treatment had been obtainable locally he could have treated the sheep, but if there were no supplies in Craven, then they were working at a disadvantage, for if the sheep were three-parts dead when treatment was applied it was of little use. He suggested that certain farmers in the locality should have supplies of the treatment, and then even if there were no outbreaks on these farms the treatment could always be obtainable.

"Mr. W. A. Simpson said supplies should certainly be sent to farmers on whose farms experiments had been carried out last year.

"Mr. Hagar said that he had so much faith in the treatment that even if his sheep died from tremblings he believed the treatment would bring them to life again. (Laughter.)

"It was decided to ask that six syringes and six bottles of gluconate be sent."

. . . . . .

Mr. Lancaster writes:—

"I was always under the impression that veterinary advisers at universities had not to trespass on the preserves of the veterinary practitioner, yet we have a case here of one who is going to supply farmers with syringes and calcium gluconate for the treatment of "tremblings" in sheep and probably at cost price. After the farmer has tried it on his sheep you can certainly rely on his doing the same to his cattle when suffering from "milk fever" and, in consequence, the country practitioner will again have to look for another source of income.

"What with whole-time County Veterinary Inspectors and now University Veterinary Advisors, the practitioner has been hard hit and there are now several country practices which are scarcely worth calling by the name. I know of one in Yorkshire which, geographically speaking, ought to be an ideal place and keep an assistant—no opposition, and miles and miles of good grazing land; two packs of hounds, a first-class auction mart—yet, as a practice it is an absolute failure and eventually there will be no one there, for I am positive it cannot be made into a profitable concern no matter who takes it over.

"Further, what is the use of the Sandoz firm advertising that calcium gluconate is only supplied to the veterinary and medical profession, when farmers are going to have it issued to them through Leeds University with instructions given as to how to use it?

"Surely we as practitioners ought to be considered, and especially as we still are the mainstay of the profession; but eventually the country practitioner will be driven out of existence altogether and have to migrate to the town and leave the farmer solely dependent on his University Veterinary Advisor, and the County Veterinary Inspectors."

Foot-and-Mouth Disease.

The existence of foot-and-mouth disease was confirmed on Saturday, March 14th, 1931, on premises at Meriston, near Otley, West Riding of Yorkshire. The prohibition of movement order includes part of the county of the West Riding of Yorkshire and a small part of Lancashire.

The poultry industry in England has become a firmly established branch of animal industry. A number of English veterinarians are beginning to consider it as one of the most remunerative branches of their practice.

A study of the list of papers read at the world's poultry congress in London indicates the immense amount of research work in progress and the variety of diseases being studied.

America at the present time is taking a leading part in the study of poultry diseases and other countries are beginning to give it serious consideration as well.—*The Veterinary Journal.*

Clinical and Case Reports.

Notes on Intravenous Medication by Formalin in the Dog.

By L. Arthur Watson, M.R.C.V.S., Cardiff.

When reading Mr. D. E. Wilkinson's article anent the so-called "Canine Hæmorrhagic Enteritis," I was struck by the expression he used, namely, that he had encountered "A few spectacular recoveries and a series of disappointing failures."

My experience has been the reverse, for the series of cases described below might be said to be in the class of spectacular recoveries.

It will be noticed that all have not been of the hæmorrhagic enteritis type. The injection has been given in other classes of disease with the desired, but not always anticipated, result.

I have had two sloughs—due, in my opinion, to faulty technique born of inexperience in the necessary technique. In neither case did the resultant sloughs cause any undue worry. The case of the greyhound bitch suffering from the effects of protracted whelping looked hopeless until she had the injection, as also did the case (No. 11) of the Peke bitch. Case No. 10 was a hopeless one from the first.

I will not enter into more detail, except to enumerate the cases with their history and treatment. Results are the chief guide in all our treatments and I am sure you will agree that, at any rate in my hands, the treatment has well merited its use.

Case 1.—*January 8th*, 1930. Greyhound dog; age two years, four months. Reported to have refused morning feed. 8 p.m.: profuse hæmorrhagic enteritis. Temperature 104·5°. Intravenous injection given. *January 9th*. Bright; taking food voluntarily. Temperature 102·4°. One small hæmorrhagic motion during the night. *January 10th*. Normal; feeding; motions normal. Some tenderness at site of injection; later a slough developed, which took about three weeks to heal; otherwise uneventful recovery.

Case 2.—*January 26th*, 1930. Greyhound bitch; age three years, four months. Dull; inappetence. Temperature 98·2°. Pulse accelerated and weak. Profuse hæmorrhagic motions. Intravenous injection. *January 27th*, 1930. Brighter. Temperature 101·4°. Taking food. One motion since injection, but not containing blood. Recovered.

Case 3.—*February 9th*, 1930. Wire-haired terrier dog; age six years. Temperature 104·6°. Inappetence. Frequent hæmorrhagic motions. Intravenous injection. The injection produced rather alarming symptoms—almost before the needle was withdrawn the animal became rigid, gave two or three rather prolonged howls and appeared to collapse, artificial respiration was immediately resorted to and he quickly recovered. He made an uneventful recovery.

Case 4.—*February 23rd*, 1930. Greyhound dog; age two years ten months. Hæmorrhagic enteritis. (This case was treated by Mr. A. A. Kidd, who was acting as *locum tenens* for me at the time). Intravenous injection given. *February 24th*, 1930. Normal. Recovered.

Case 5.—*March 15th*, 1930. Labrador bitch; age about five months. Profuse diarrhœa (not hæmorrhagic) persisting for four days and failing to respond to usual internal treatment. Intravenous injection given. (Temperature 99·8; dull; inappetence; pulse accelerated and weak). *March 16th*, 1930. Temperature 101·2°; brighter; had one motion during night 15th to 16th. Still very loose. *March 17th*. Bright; feeding; temperature 101·4°. No further motions. *March 18th*. Normal. Bowels acted, motion soft but not watery. Recovered.

Case 6.—*June 29th*, 1930. Greyhound bitch; age about two years. Septic metritis (following protracted labour lasting for 48 hours: 10 pups with eight of which she had to have assistance in delivery, two dead and one of latter decomposing). Temperature 105·8°; dull; inappetence; frequent straining; no milk; no interest in pups; diarrhœa and fœtid discharge from vagina. Intravenous injection formalin given, *plus* local disinfection. *June 30th*. Temperature 103·2°; brighter; no straining; taking liquid food voluntarily. *July 1st*. Temperature 101·8°; feeding; some tenderness at site of injection. *July 2nd*. Temperature 101·2°; feeding; bright. A slough developed, which healed in about five weeks. Recovered.

Case 7.—*July 15th*, 1930. Golden Retriever bitch; age 14 months. Hæmorrhagic enteritis. Temperature 103·2°; dull; inappetence. Intravenous injection. *July 16th*. Brighter; feeding. Temperature 101·2°; motion still loose, but no blood. *July 17th*. Temperature 101·2°; no further motions. Recovered until *August 5th*, 1930—again passing hæmorrhagic stools. Temperature 102·4°; fairly bright; feeding. Intravenous injection given. *August 6th*. Temperature 100·8°; no further motions. *August 7th*. Temperature 101·0°; normal motion. Recovered.

Case 8.—*October 9th*, 1930. Sheep dog; age about 10 years. Temperature 98·6°; pulse accelerated and feeble. Hæmorrhagic enteritis (blood-stained fæces first noticed by owner, October 7th, but not then very profuse). Intravenous injection given. *October 10th*. Brighter; temperature 100·2°; feeding; no further motions. Recovered.

Case 9.—*October 10th*, 1930. Greyhound dog; age one year, 10 months. Dull; inappetence; temperature 103·4°; hæmorrhagic fæces. Intravenous injection given. *October 11th*, 1930. Brighter; feeding; temperature 101·0°; soft motion, no blood. Recovered.

Case 10.—*October 13th*, 1930. Cross-bred smooth terrier, reported persistent vomiting since October 6th. Mouth and tongue ulcerated and bleeding, fœtid breath, very emaciated, pulse accelerated and feeble; temperature 96·8°. (Stuttgart, in an advanced stage; owner was told that it was hopeless and animal was dying, but appeared to want something done, so intravenous injection was given, also normal saline, latter subcutaneously). Animal died within six hours.

Case 11.—*November 18th*, 1930. Peke bitch; whelped five pups four days previously. Dull; inappetence; occasional vomiting; intermittent straining; no interest in pups; very little milk; temperature 104·5°. Intravenous injection. *November 19th*. Slightly brighter; voluntarily taking liquids; no straining; temperature 102·2°. No vomiting. *November 20th*. Much brighter; looking for food. Temperature 101·4°. Recovered.

Case 12.—*February 12th*, 1931 (10 p.m.). Greyhound bitch; age seven years five months. Dull; inappetence;

temperature 104·2°; copious hæmorrhagic motions. Intravenous injection. *February 13th*, 1931 (11.30 a.m.). Brighter; taking food; temperature 101·4°. Recovered.

Case 13.—*February 3rd*, 1931. Greyhound bitch. (Reported to have been off food and had diarrhœa for three days). Eyes dull and sunken; condition very poor; pulse accelerated and weak; unsteady on legs; temperature 98·8°. Intravenous injection. *February 4th*. Slightly brighter; pulse a little stronger; taking a little liquid food voluntarily. Temperature 100·2°. Diarrhœa persisting, but not so profuse. *February 5th*. No change. *February 6th*. Owner reported "about the same" and added that breath was "stinking." *February 7th*. Typical Stuttgart, temperature 99·2°; pulse frequent and feeble. Inappetence. (Read McCunn's article in *Record* and, acting on it, gave another intravenous injection). *February 8th*. Very slight improvement; temperature 100·4°; pulse slightly stronger, gave another intravenous injection. *February 9th*. Brighter; temperature 101·2°. Pulse much stronger and steadier; taking liquids voluntarily, and getting off bed to feed. *February 10th*. Improvement maintained. Mouth cleaner. *February 11th*. Improvement maintained. Mouth and teeth clean, breath sweeter, looking for food, motion soft but not watery. *February 12th*. Still improving. *February 13th*. Getting steadily stronger, mouth and breath now normal, scraped raw meat allowed and taken with avidity. *February 26th*. Progress satisfactory; no further diarrhœa; steadily impoving in general condition and slowly regaining flesh.

A Few Brief Notes on Interesting Cases.

By K. J. Urquhart, M.R.C.V.S., London.

Rupture of the Posterior Aorta.

Subject.—A three-year-old thoroughbred colt. He was a very promising animal, and had done his training exceptionally well. The colt was found dead in his box and the owner, suspecting foul play, sent a message for me to make a *post-mortem* examination. The colt had not been dead long when I arrived. The buccal membrane was blanched, death having taken place from internal hæmorrhage.

On opening the abdomen a large quantity of blood escaped, and, on looking for the source, I found that an aneurism of the posterior aorta just behind the kidneys had given way. Looking carefully inside the vessel there were five worms —*S. armatus*.

. . . . .

Renal Calculus.

Subject.—A thoroughbred brood mare. She was taken with sudden pain.

Symptoms.—Mare sweating profusely, pulse rapid, temperature 105°, breathing accelerated, constantly passing blood-stained urine, hind leg straddled, continued straining and groaning; bladder empty; hand pressure forward on the lumbar region caused pain.

Prognosis.—Death.

Diagnosis.—Acute nephritis. Post-mortem: The right kidney was a mere capsule and contained a calculus 1¾ by ¾ of an inch.

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Varicocele.

Subject.—A three-year-old Shire colt a farmer requested me to examine with a view to castration in the spring of 1892. The owner informed me that there was a large soft, warm swelling descending to the stifles. Upon examination I could easily manipulate the testicles and agreed to emasculate after putting myself on the safe side. A medical friend went with me to operate in case I should require help in the process, which was a success from that point of view.

The animal was broken to harness and worked through harvest. In the following October the farmer told me that the sac was larger and would burst if I did not operate. Accompanied by two medical gentlemen, I cast and chloroformed the colt. The surrounding skin was washed and disinfected, all instruments and gut sterilised. An incision was made through the skin, a large aneurism needle passed round all the vessels we could find and ligatured. Death occurred on the third day from peritonitis. This is the *only* case in the horse I have seen. Therefore, I conclude it is very rare in this animal.

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Sudden Symptoms in a Shiverer.

A bay farm gelding, seven years old, when at plough lost control of the off fore leg, and dragged his toe along the ground for a few inches. The owner immediately took off the chains, intending to walk the horse to the stable; he had not proceeded many yards when the animal plaited both hind legs, fell down, and was unable to rise.

I saw the case, within 15 minutes of the telephone call. Temperature normal; pulse imperceptible; complete loss of power in the limbs; no response to pricks on the under surface of the tail—the latter was as limp as in a case of fracture of the spinal column. The horse lived 14 hours. *Post-mortem* examination revealed all organs healthy to the naked eye; a fairly firm clot in the left ventricle; no fracture of the spine.

Being very suspicious that this horse had a nervous affection, I questioned the foreman; in reply he informed me that the horse was bought at a farm sale 12 months ago. He could not work in shafts, not being able to hold a load down a hill; when asked to back, up went his tail; his movements were uncertain, the horse often hitting the sides of the stall with the hind legs.

Malicious Injury to Cattle.

By O. Stinson, M.R.C.V.S.

In December last I attended a cow due to calve in about five weeks. The symptoms were intermittent straining and a "bloody" discharge from the vagina. The above symptoms were in evidence for a fortnight. She calved with a little assistance a week before she was due, giving birth to a live calf.

In February of this year I was called to attend, in the same byre, another cow due in about two months. The symptoms were straining, some tympanites, œdema of the vagina and vulva. On examination the vagina showed signs of injury, there being punctured wounds

evident. Malicious injury to the vagina was diagnosed and a blood-stained stick found over a beam in the byre. This cow died in three days.

Two other cows next to this one had the tail somewhat raised and the vulva slightly œdematous. No further examination was made as it was thought straining might be brought about. With treatment both recovered.

I have good reason to believe that the culprit was not in the true sense a sexual pervert, but the kind of weak-minded person capable of damaging any kind of property.

Eversion of the Uterus.

By D. C. Phillips, Class D, Royal Veterinary College.

I fully realise in recording the following, that it is a condition which is very familiar to all country practitioners and the reason for my doing so is to illustrate something which struck me very forcibly, *i.e.*, the wonderful powers of resistance shown by bovines, provided the necessary care is exercised.

Subject.—A cross-bred Shorthorn cow which had calved the previous day.

History.—We were called out on the evening of February 18th to a farm about 15 miles away, with word that "the calf's bag had come out." On our arrival we were surprised to find that the cow had been given up for hopeless and word sent to the knacker. With this in mind, the beast had been walked from the byre to a filthy cart-shed, where she lay with her uterus unprotected. There had been heavy hæmorrhage, both in the byre and where the cow now lay. This was due to tearing of a number of the cotyledons. The death warrant had evidently been signed by the owner, who had somewhat been influenced by some friendly neighbours, who considered the inverted mass *plus* the hæmorrhage, sufficient to justify it. Needless to say, these same persons, so we later learned, had made a vain but hopeless attempt at reduction.

Treatment.—Before expressing any opinion, though the owner was very pessimistic, and greatly averse to interference, the first step was to wash the mass. This was done with warm water, carbolised, after having placed the uterus on a clean sheet. Within a few minutes it was evident that, but for intense congestion and bruising, there was no laceration. The next thing was, if possible, to get the beast up and find a suitable place for reduction. Luckily we were informed that the cow took the halter well, and whilst this was being procured, a search was made for a suitable place for the operation. This having been found, the beast was made to rise, the uterus, during the effort, being contained in a large bread pan. The beast was now quietly led to the selected shed, which was provided with some strong beams, at a good height from the ground.

Whilst the pulley was being positioned, the uterus was being continuously washed. At the same time, it was enclosed in a clean blanket, and an endeavour made to reduce its volume. A strong plough line was next tied above the hocks, and the hind limbs brought close together. The pulley hook was then attached, and the hind portion of the beast drawn well up. The suspended portion was then supported by bags tightly packed with bedding.

Before reduction was attempted, the inverted mass was thoroughly washed with a good antiseptic soap. During the whole time warm water containing a little carbolic acid was being continuously poured on the mass.

With the uterus somewhat reduced in volume, reduction was attempted and ended successfully. Following this, the uterus was placed in as nearly as possible its normal position. This is important, and if properly done we have found a truss unnecessary. Some clients, however, like to see them in position, though several cases have been left without any such preventive, with good results. A few pessaries were inserted and the beast lowered, she having been raised to a suitable height posteriorly, thereby rendering negligible the straining against the reduction. In a while she was induced to rise and in a few seconds walked back to her own domain. A truss was now applied at the request of the owner.

But for a slight vaginal discharge, which continued for a few days, the cow made rapid progress and an uneventful recovery. This was aided by good nursing, stimulants, and internal tonics.

I wish to stress the apparent hopelessness of the case on our arrival, especially seeing that the uterus had been out for nearly 12 hours.

Review.

[**The Relative Values of Cod Liver Oil from Various Sources.** By J. C. Drummond, D.Sc., and T. P. Hilditch, D.Sc. Issued by the Empire Marketing Board and published by H.M. Stationery Office. Price 1s.]

This publication deals exhaustively with every aspect of the production of cod liver oil for medicinal purposes. The various cod fisheries of the world are described and their respective products are compared.

The methods of assay of vitamins A and D are dealt with fully.

Chapter 9, which deals with cod liver oil for animal feeding, is of special interest to us. It would appear that there are great differences of quality exhibited by the oils prepared for farm use. Many of them are made by the highly undesirable "rolling" method, and include not only the liver, but the gut and other waste material, whale oil, herring oil and even sperm oil often being added as adulterants.

It is scarcely surprising, conclude the writers, to read that the results of administering "cod liver oil" to farm stock have been conflicting. The sale of such oils for veterinary or farm purposes, whether as the oil itself or as an ingredient of proprietary foods, should no longer be tolerated.

The publication makes entertaining reading and contains material of value to us. It is sold at a price which must be greatly below the cost of publication.

J. G. W.

Eleventh International Veterinary Congress, London.

August, 1930.

(*Continued from page* 287.)

The Standardisation of Biological Products.

By Dr. A. Eichhorn.
Director, Veterinary Department, Lederle Laboratories, New York.

The remarkable progress which has been made in the control of infectious diseases with the aid of biological products, and the extensive use of the preparations, necessitate certain definite standards for the evaluation of their potency and purity. The standardisation of a few of these products, such as tetanus antitoxin, has reached a high state of development. When we consider that the control of tuberculosis in some countries is dependent on the tuberculin reaction, that the control of hog-cholera is dependent on the effectiveness of the simultaneous vaccination, and that one method of controlling infectious abortion is dependent on the aid of the agglutination test, it is apparent that tuberculin, hog-cholera serum and virus, and the agglutination test and its antigen should be carefully standardised, and that this procedure has not kept pace with the extensive use of the biologics, the agglutination test, and the diagnostic reagents. There are many other diseases for which biologics are being prepared and used and for which standards should be formulated.

It is of extreme interest to note that active steps under government control are being taken in the United States to establish definite standards for the various products, but the author points out that there is no uniformity of requirements for such standards in the different countries, nor is there any dependable procedure upon which these standards can be established.

When one examines the present method of standardising some of the products for the prevention of diseases mentioned by the author, one realises the great need for further work being done on the standardisation of these products, and their issue under government control. The practising veterinarian would then be able to obtain reliable products, and so reap the full benefits of research into animal diseases.

Problems in the standardisation of products for the prevention of some diseases are discussed as well as the standardisation of anti-bacterial sera, antitoxins, and various diagnostic agents such as tuberculin, mallein and the bacterial antigens for agglutination tests.

The report emphasises the importance of following a standard procedure in the preparation of these products, and unless the procedure is carried out in every detail, disappointing results may follow, and dependable methods of diagnosis and immunisation may fall into disrepute.

The author's conclusions are :—

There is urgent need for uniform standardisation of biological products. At the present time there are only a very limited number of these preparations which can be accurately standardised.

The creation of an International Committee for the purpose of collecting data and organising work on the standardisation of biological products would be advisable.

This Committee to be authorised to have active work carried out on the standardisation of biological products in various institutions.

This Committee to establish central distributing places for cultures, toxins, diagnostic sera, etc., to be used in connection with the standardisation and preparation of biological products.

This Committee to publish procedures of standard methods of producing biological products as well as methods of procedure of applying biological tests for the diagnosis of certain diseases.

This Committee would also prescribe the technique on the application of the various biological tests and furnish the information for the uniform interpretation of the results.

W. S. G.

Standardisation of Biological Products.

By Dr. G. Flueckiger.
Adjoint technique de l'office vétérinaire, Département fédéral de l'économie publique, Berne.

The author begins by pointing out the need for the standardisation of biological products and emphasises that the basis of such standardisation should be international; otherwise, as has already happened to some extent, countries that insist upon standardising such products choose a unit without reference to that already in vogue in another country.

International standardisation is equally important both from the therapeutic point of view and economically. By the removal of low standard products better and earlier diagnosis will be obtained in many veterinary diseases and chances of successful treatment will increase. Immunotherapy offers the only etiologically specific method of treatment and as good results have already been obtained in many diseases, this makes the study and development of methods of standardising those products which cannot yet be standardised satisfactorily all the more urgent. This work of universal standardisation of biological products and the development of a more efficient research programme would best be undertaken by the Commission on standardisation of the League of Nations. The author expresses the hope that the necessary financial assistance will be secured.

Finally, it is proposed that the Eleventh International Veterinary Congress in London should recommend the setting up of a commission to bring these views before the League of Nations and to give any further assistance the League may desire.

W. R. W.

Irish Free State officials who have been working on the "scrub" bull scheme in Ireland are amazed that there should be any opposition to the bill here. The Irish scheme has worked wonders in Ireland.

Standardisation of Veterinary Biologics in the United States.

By Dr. John R. Mohler,

Chief, Bureau of Animal Industry, U.S. Department of Agriculture, Washington D.C.

Prior to the enactment of the Virus Serum Toxin Law applicable to veterinary biologics, vaccine virus imported into the United States was responsible for outbreaks of foot-and-mouth disease, which showed conclusively that contagious and destructive animal diseases could be introduced into a country by the importation of viruses, cultures of organisms, or by serum derived from animals.

A law in 1909 authorised the Department of Agriculture "to purchase in the open market samples of tuberculins, serums, antitoxins or analagous products of foreign or domestic manufacture which are sold in the United States for the detection, prevention, treatment or cure of domestic animals, to test the same and to publish the results of the said tests."

The author describes the result of the examination of a number of biological products carried out by the Bureau under the above law, and it is a revelation of the chaos that can exist in a country where the producers have a free hand in issuing biological products without State supervision.

Tetanus antitoxin for veterinary use was in some instances about two-thirds less than the strength which the product should have possessed. Samples of imported hog cholera vaccine and samples of hog cholera and swine plague serum were found to be quite unreliable. A serum widely advertised for the prevention and cure of abortion in cattle was found to be a weak solution of carbolic acid, and not a serum at all. In another instance, diphtheria antitoxin, which had been returned to the producer because its date of usefulness had expired, was relabelled as antitoxin for equine influenza, chicken roup, dog distemper, etc. In other cases normal defibrinated blood derived from animals slaughtered for food purposes was sold as anti-hog cholera serum.

These practices were not only disastrous to live-stock producers, but rapidly were discrediting serum and other meritorious biologics.

In 1914 a further clause was incorporated in the Law authorising the Secretary of Agriculture to supervise the production and distribution of veterinary biologics entering into inter-State commerce and permitting importation into the United States of such biologics as might be of safe origin and by examination and inspection by the Bureau found not worthless, contaminated, dangerous or harmful, and this law remains unaltered to date.

Veterinary biologics cannot be marketed legally in inter-State commerce unless prepared in an establishment operating under a licence from the Secretary of Agriculture, or imported from abroad under a permit from the Secretary. Permits are declined whenever it appears that the products for which application is made may be the medium through which infections existing in foreign countries may be conveyed to animals in the United States. Licences can be suspended whenever faults in the production of biological products are discovered.

The regulations for producers of biological products, and the manner in which inspections of the premises are carried out, are described.

The products that can at present be standardised are mentioned, but the urgent need for further research in the successful manufacture of other biological products is pointed out.

In conclusion, the following fundamental recommendations are submitted to the International Veterinary Congress as a means of establishing and maintaining the standardisation of veterinary biological products :—

(1) That laws be enacted by each Country, or State, now lacking such legislation, giving authority to license, supervise, and control the production and distribution of viruses, serums, toxins, and analogous products intended for the treatment of animals or for the diagnosis of their diseases.

(2) That supervision and control apply to the operations of all persons or firms engaged in the preparation and distribution of veterinary biologic products within the jurisdiction of the Country or State.

(3) That regulations and instructions be issued by the proper authorities of each Country or State for the information and guidance of all who are engaged in the production and distribution of veterinary biologic products.

(4) That the administration of the laws and regulations be vested in a duly constituted centralised veterinary authority of the Country or State.

(5) That a directing veterinarian responsible to the central authority, and a suitable force of assistants be assigned to each region or laboratory where these biologics are prepared, in order to enforce the law and regulations.

(6) That while satisfactory progress has been made in the laboratory standardisation of certain biologic products, there still remains a fertile field and an urgent need for further study of others, which with our present knowledge cannot be satisfactorily standardised.

W. S. G.

Milk "Unfit for Babies."

"Much interest, from the home dairying point of view, has been taken in the recent case in London of a catering establishment failing properly to designate certain condensed milk preparations," says the *North British Agriculturist*. "This raises anew the very vital question of the free sale of these imported milk concoctions. Official statistics indicate that no fewer than 442,556 cases of tinned skimmed milk, which has, by Public Health regulations, to be labelled 'unfit for babies,' were imported into this country during the month of January. According to Mr. Percy Hurd, M.P. (secretary of the Conservative Agricultural Committee of the House of Commons), imported skimmed milk now reaches the total of 116,000,000 gallons per year, or 320,000 gallons per day. 'What a happy change,' he said recently, 'would come over pastoral and agricultural England if that large gallonage, or a substantial part of it, came from English cows and our own land, and if the tinned milk were made here instead of our money going overseas to benefit foreign countries.' No one will suggest that this is not a fair commentary on the situation. That such stuff should be freely imported and freely sold in this country, to the detriment of the home trade, is surely also a pungent commentary upon the supposed regard which our legislators profess for the public health interests of the community. Probably, however, the question is too non-spectacular for the party politician to bother his head about."

Sir Frederick Smith Memorial.

The proposed memorial to Major-General Sir Frederick Smith, which received the sanction of the Council of the Royal College of Veterinary Surgeons at its last meeting, has already obtained substantial support from several members of the profession, as will be seen by the accompanying first list of subscribers. The appeal to be issued to the profession is now being prepared, and it is proposed to include in it a list of first contributors to the Fund.

The Honorary Secretary and Treasurer will be glad to acknowledge receipt of any further contributions from members who are willing to have their names included in this first list of subscribers.

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The Lübeck Deaths.

"During a debate in the Lübeck Bürgerschaft on the deaths of more than 70 children who received the Calmette immunization process against tuberculosis, the police senator stated that Dr. Altstaedt, one of the senior medical officers of the Free City, had caused his 10-days-old child to receive treatment in order to prove that the Calmette cultures, if properly prepared, are innocuous to human beings," says the Berlin correspondent of *The Times*. "Dr. Altstaedt is one of the doctors against whom charges are being brought by relatives of the dead children, and the police senator described his act as one of the highest courage.

"An official inquiry guardedly confirmed the view, to which the bulk of medical opinion had already come, that the tragedy was due to a mistake in the preparation of the cultures which rendered them virulent, but there was nevertheless for some time a newspaper agitation against the further use of the Calmette process."

It would be interesting now to know on what scientific evidence the Canadian Government has decided to prohibit the importation of Danish bacon. If there is a real risk of cured bacon carrying live germs of the disease, presumably in the bones, the British regulations designed to safeguard the health of our herds and flocks need to be reviewed in the light of the new facts.—*The Times*.

Abstracts.

[**The Results of Systematic Investigations for Streptococcic Mastitis in the Herds of a Collective Dairy.** Ernesti, Dr. S., 1930, *B.T.W.*, XXXXVI, No. 34, p. 551-8.]

After reviewing recent publications, the list of 26 of which is appended to the paper, the author gives a detailed account of systematic investigations carried out by him on cattle belonging to the peasant-farmers selling their milk to a large collective dairy; these are shown in 18 summaries and five tablets. The work lasted several months between April and August, 1929. The author gave the following summary:—

(1) Out of 624 cows examined, belonging to 50 herds owned by peasant-farmers supplying with the milk a large collective dairy, 6·09 per cent. were giving milk of a yellow colour, whereas 9·13 per cent. had an increased cell-count; altogether, 15·22 per cent. of cows were suspicious. Actually, the number of infected animals was greater, as cows having an increased cell count passed, from time to time, streptococci in their milk.

(2) ·8 per cent. of animals were found to be secreting streptococci.

(3) It would appear that the number of milkings per 24 hours—two or three— had no influence upon the incidence of the disease.

(4) To determine the extent to which a herd is affected by streptococcic mastitis all cows must be clinically examined and each milch cow should be examined bacteriologically.

(5) Both those examinations must be carried out by a veterinary surgeon.

(6) To eliminate, as far as possible, the number of errors a clinical examination of an emptied udder must be combined with the gustatory test of milk and with the thybromol test.

(7) The palpation of the udder and the latter two tests give, on an average, 40 per cent. and 35 per cent. of errors. Use of one test only allows detection of but a fraction of infected cases; when using two methods, the combination of palpation and of the thybromol test gives the least results; combination of all three methods ensures the detection of 57·86 per cent. of cases of infection. To decrease, therefore, the percentage of errors, it is advisable to examine bacteriologically the milk of every cow after each milking.

H. F.

[**The Blood Picture of Cattle Affected with Distomatosis.** By Dr. E. Eichler, *Prager Arch. f. Tiermed.*, 1930, Part A, pp. 45-60.]

This is a very good paper on hæmatology of bovine diseases in general and distomatosis in particular. Various authors have reported an increase in the number of eosinophils in distomatosis, together with a decrease in the hæmoglobin content. Ferjencik found in fluke-affected sheep and cattle a fall in the hæmoglobin content to 45 per cent., a leucocytosis and a slight eosinophilia. The author used 50 head of cattle for his research, and after an *ante-mortem* diagnosis and blood examination, in which blood was obtained from the ear or jugular vein, the animals were killed at an abattoir and the livers taken for examination directly after death. The hæmoglobin content was determined with Sahli's hæmocytometer; blood

cell enumeration by the method of Metz, Hayem's fluid used for dilution for erythrocytes and Turk's albumin-gentianviolet for leucocytes; staining by the Giemsa method, and Schilling's method was used for differentiation of the leucocytes. The entire results are illustrated in tabular form and the state of the liver, together with the number of flukes found, also shown. For comparative purposes the author examined blood from five normal beasts and in the article compares them with findings of other workers. The normal values are given as lymphocytes, 48 per cent.; monocytes, 5·6 per cent.; neutrophils, 40·5 per cent.; eosinophils, 6·8 per cent.; basophils, 0·5 per cent. Hæmoglobin content 64. Blood cell enumeration after du Toit is R.B.C. 6,450,000, and W.B.C. 7,860.

In distomatosis the author's average figures are as follows:—Hæmoglobin content from 20-46, av. 33 per cent.; number of R.B.C. from 2,300,000-8,100,000 av. 3,612,000; number of W.B.C. from 4,000-9,000, av. 6,000; qualitative blood picture—abnormal types of blood cells were not seen, as animals in a state of cachexia or hydræmia were not brought for slaughter, but an abnormal number of blood-platelets were observed in many cases. Quantitative W.B.C. count: lymphocytes from 15-41, av. 29·84 per cent. neutrophils from 26·5-82·5, av. 61·34 per cent.; monocytes from 0·5-17·5, av. 5·05 per cent.; basophils from 0-3, av. 0·55 per cent.; eosinophils from 2·5-38·5, av. 10·18 per cent.

One interesting point that emerged from the work was that generally there was a low eosinophil figure associated with a small number of flukes; thus, in one case where there were only 10 flukes, the eosinophil percentage was 9·81, and this figure rose along with the number of flukes (140 flukes—19 per cent. eosinophils). This fact supports Ebhard's theory that in parasitic diseases an increase in eosinophils is directly due to a painful symptom, which may be due to a chemotactic property of the parasite.

The author does not think that blood examination is of much assistance in the diagnosis of distomatosis as, for one reason, other current diseases are likely to have an influence on the blood picture, and also, the simpler fæcal examination is of great value in this respect.

The paper is terminated by a rich bibliography.

J. T. E.

[**On the Question of Bacterial Content of the Normal and Diseased Bovine Uterus.** Haupt, Professor H., Dr. Med. Vet., 1930, *B.T.W.*, xxxxvi, No. 40, pp. 696-702.]

This is a paper issued by the Veterinary-hygienic Institute of the University of Leipzig, in which the author surveys all previous publications on the subject and gives an account of the experiments carried out by him jointly with Klimmer and Roots in 1929. The following summary is given:

1. As a rule the normal bovine uterus is germ-free (sterile?).

2. The diseased bovine uterus contains—besides specific causal organisms, *e.g.*, *Mycobact. tuberculosis* and *Br. abortus Bang*—*B. pyogenes, Strepto-* and *Micrococci*, and bacteria of the coli group.

3. These other micro-organisms, apart from *M. tuberculosis* and *B. abortus*, invade the uterus after the expulsion of the fœtus.

4. It would appear that, among non-specific bacteria, *B. pyogenes* has the greatest resistance against the natural protective power of the animal organism.

5. Further research is indicated at that stage for the determination of the etiology of puerperal sepsis, and especially the question of streptococci, which appear to play an important part in various cases of metritis; at the same time, it would be advantageous to investigate the course of endometrites under a strict bacteriological control. The article has appended a list of 20 references.

H. F.

[**Contribution to the Question of Latent Infections with *B. abortus*, Bang, in Veterinary Surgeons.** Knoth, M., *D.T.W.*, 1930, 38, 52, 822-825.]

The blood of 107 veterinary surgeons (98 practitioners and nine abattoir workers) was investigated for the presence of Bang infection. Of these, 18 were positive either by the agglutination or complement fixation test or by both. Eight persons showed clinical symptoms which, in conjunction with the serological test, indicate that they were infected with undulant fever, due to *B. abortus*. Leaving out the abattoir veterinary surgeons, there are left eight out of 98 practising veterinarians apparently attacked by a Bang infection. Thus it would appear advisable for veterinary surgeons manifesting febrile symptoms of doubtful origin, with skin eruptions especially on the arms after removal of the afterbirth, with persistent headache and dulness and with rheumatoid pains, to have their blood serologically tested against a Bang antigen.

J. H. M.

[**The Influence of Alimentary Manipulations on General Nutrition—(3) The Value of Softening Grain from the Alimentary Point of View.** Fleuret, P. H., *Rév. Vét.* 1930, 82, 618-638.]

The author gives the views of a number of workers on the effect of feeding animals with normal and softened grains; as there is no general agreement, he fed two rabbits with normal, cooked and macerated oats, with a supplementary ration of hay, cabbage and water. The following is a discussion of the results.

The gain to the organism is greater with dry oats than with softened or cooked grain. The coefficient of digestibility of wet or cooked oats is the same.

Since dry oats are superior, from the alimentary point of view, to macerated oats, although their total energetic value is about the same, it is most probable that this is due to a better assimilation brought about by a more thorough mastication and more complete insalivation.

It happens in certain cases that, although the dry grain gives the best results, its digestive coefficient may be lower than that of the wet oats. This can only be due to the cellulose factor; cellulose taken in a macerated state is more easily acted upon, thus giving rise to a more intense hydrolysis or fermentation of a product, which, apart from its rôle of "making up bulk," produces only a minimal amount of energy.

The digestive coefficient of an animal for a certain food is far from being established; it is a very relative indication, which can only give a rough idea of the value of a food. Moreover, whatever is capable of interfering with

digestive processes without the organism losing its state of equilibrium can modify in great degree the digestive coefficient. For the physiologist the digestive coefficient is of little value. What is of more importance is the co-efficient of alimentary utilisation, *i.e.*, the ability of the organism to utilise food placed at its disposal, and which is destined to increase weight, make up wear and assure its energetic requirements.

Conclusions.

(1) Macerated and cooked oats behave in an identical fashion; if their digestive coefficient is high the fact is due very probably to a greater transformation of cellulose into methane and CO_2.

(2) Macerated and cooked oats are less useful to the organism than normal dry oats; this is due not to an energetic deficiency but to a lack of mastication.

(3) The idea of digestive coefficient should be replaced by that of alimentary utilisation, which embraces a more intimate, exact phenomenon.

J. H. M.

[**Experiments on the Control of Bovine Fascioliasis in Collective Farms.** Schultz, R. E. S., Rayevskaya, Z. A., and Lossyev, L. A. 1930. *Vyestnik Sovremennoy Veterinarii*, pp. 395-398.]

The authors gave an account of the work carried out in the summer of 1929 by a helmiathological expedition in four collective farms on 152 cattle. The actual technique employed is described, and it was found that, on an average, 52 per cent. of animals were infected. Eighty-six infected cattle were treated by a new German drug—neoserapis (Aubing, München) and control examinations and autopsies were carried out to test its efficacy. It was found that its administration produced a satisfactory result, but did not ensure a full effect. To determine whether the extent to which cattle were infected in the above farms was comparable to the degree of invasion prevalent in that locality, 121 bovine livers were examined at the local slaughter-house, and 76 per cent. of these were found to be infected. *Limnæa truncatula* was found on pastures near ponds where the cattle were watered. All cattle were dehelminthised, methods of proper packing of dung were explained, improvements in drainage were suggested, ditches and low-lying pastures were sprinkled with copper sulphate (1 per cent. solution), and a series of lectures and demonstrations given to the staff of all collective farms.

H. F.

[**Estimation of Prophylactic Measures in Combating *Hypoderma bovis*, according to the 1929 Experiments.** Nyenyukov, Professor D. B., and Dyegtyaryev, M. B., 1930. *Vyestnik Sovremennoy Veterinarii*, p. 393-395.]

This is a paper issued by the parasitological laboratory of the Research Institute of the Leather Industry. The experimental work carried out by the English Committee between 1919-1922 is reviewed and shown in tabular form. Experiments in Russia were carried out in the field, and all animals were divided into several groups treated by birch-tar, naphtha, clipping, washing with water and *sapo viridis*; the results are tabulated.

None of the prophylactic measures proposed in Europe and America and tested by the above laboratory could prevent the infestation of cattle by *Hypoderma bovis*. Experiments carried out during the summer of 1929 in Northern Caucasus led the authors to believe that tar and naphtha were inefficacious, apart from their expense and the grave disturbance in health they produced in animals thus treated. Washing with water and soft soap proved to be most efficacious in comparison with other prophylactic methods tested.

H. F.

[**A Case of "Staggers" in a Hunter.** Freude, A. 1930. *B.T.W.*, xxxxvi, N. 37, pp. 601-2.]

The author was called in as an expert to give an opinion on the nature and origin of the diseased condition in a two-year-old hunter which exhibited alarming symptoms six days after purchase from an English horse-dealer. Two examinations were carried out, and the writer, after describing in detail the clinical picture, arrived at the conclusion that the animal was suffering from dysfunction of the central nervous system, and that this condition existed before the purchase was effected. This certificate is quoted *verbatim*.

H. F.

[**A Case of Heart Weakness in a Horse.** Steffan, H. 1930. *B.T.W.*, xxxxvi, No. 38, pp. 617-18.]

This is a report on two cases observed at the medical clinique and the Institute of Veterinary Forensic Medicine at the Veterinary High School in Berlin. A mare was found with symptoms simulating an attack of colic: shaking violently; pulse 60; temperature 39·4° C.; laboured respiration; conjunctiva pink and somewhat icteric. The condition, which at first was thought to be a case of spasm of the diaphragm, was diagnosed as heart weakness caused probably by toxic effect on the sympathetic system.

B. S. Parkin's data concerning the symptoms of a true spasm of the diaphragm (1929, 15th An. Rep. Dir. Vet. Serv., South Africa) has enabled the author to make a differential diagnosis. The animal was treated by subcutaneous injections of caffein and "Kardiazol" and made an uneventful recovery in 11 days.

Another case described was a true spasm of the diaphragm, although the clinical picture was somewhat similar to that stated above.

H. F.

[**A Case of Tuberculosis of the Skin and of the Facial Bones in a Horse.** Nenkoff, G. 1930. *B.T.W.*, xxxxvi, No. 38, pp. 613-615.]

This is a report on a case observed at the surgical clinique of the veterinary high school in Berlin. The interest centres round the fact that tuberculosis of the skin in the subject was of primary origin, the periosteum and the facial bones becoming involved at a later stage, whereas none of the inner organs became infected. There are two figures in the text, showing the head of the patient, and the lateral view of its skull after slaughter. A complete anatomical and histological description of the lesions is given. The paper has a list of 18 references appended.

H. F.

N.V.M.A. Divisional Reports.

North of Scotland Division.*

President's Address at Aberdeen.

Mr. George Howie on the Value of Corporate Professional Life.

The half-yearly meeting of this Division was held in Marischal College, Aberdeen, on Saturday, February 14th, 1931.

Mr. George Howie, President, was in the chair, and there were also present the following members:—Messrs. McVean, Macpherson, Lyon, Clerk, Crabb, J. C. Grant, Macfarlane, Sievwright, Rice, Cunning, Mitchell, Hepburn, W. J. B. Robson, Drennan and J. McAllan (Honorary Secretary).

The minutes of the last meeting were taken as read, as they appeared in the *Veterinary Record*, and were approved.

Finance.—The Secretary read the financial statement of the Division, which disclosed a satisfactory position and was approved by the members.

New Member.—Mr. W. Grant was unanimously elected a member of the Division.

Correspondence.

(1) Apologies for absence from Messrs. J. Beattie, W. Anderson, J. Anderson, D. Coull, A. B. Hendry and A. Niven.

(2) From Mr. J. Gillray MacGregor, of Stirling (dated May 10th, 1930) anent the proposal that Divisions should increase their Annual Subscriptions by 10s., which sum would be placed to the credit of a fund for the purpose of defraying the travelling expenses of the Official Scottish Candidates who are successful in obtaining election to the Council of the Royal College of Veterinary Surgeons. The letter was discussed by several of the members present and it was unanimously decided that the subscription should not be raised for this purpose but that it might be left to members to subscribe to the fund if they cared to do so. The Secretary was instructed to reply to Mr. MacGregor to that effect.

(3) From the General Secretary of the N.V.M.A., dated August 27th and October 15th, with reference to Divisions doing all in their power to increase the membership of the N.V.M.A. The Secretary was instructed to reply that, as far as the North of Scotland Division was concerned, every member of the Division was a member of the N.V.M.A. The members were whole-hearted in wishing to do everything possible to ensure that any new members of the Division should have the value of membership of the N.V.M.A. brought fully to their notice.

(4) From Dr. J. Russell Greig, suggesting that the members of the North of Scotland Division might care to meet him for an informal discussion on grass disease. The members were very enthusiastic in wishing to meet Dr. Greig, and the Secretary was instructed to arrange for a meeting in March.

(5) From the Scottish Branch, dated June 27th, 1930, and enclosing correspondence with regard to the appointment of veterinary officers to the Ministry of Health and to the Department of Health for Scotland. The Division most wholeheartedly supported the suggestions as contained in this correspondence.

* Received for publication February 23rd.

Election of Office-Bearers.

President.—Mr. A. Sievwright (Tarland), was unanimously elected.

Vice-Presidents.—Messrs. John Lyon (Banff) and W. Anderson (Keith).

Secretary and Treasurer.—Mr. James McAllan was re-elected.

Council.—Messrs. H. McVean (Craigellachie); J. Anderson (Keith); D. Crabb (Fraserburgh); R. E. Drennan (Aberdeen); and J. C. Grant (Aberdeen), were elected.

The President then gave his Presidential Address as follows:—

President's Address.

The President (Mr. George Howie) said: The first duty which devolves upon me as President is to return thanks for the honour you have done me in electing me to fill this office. I highly appreciate the compliment, but at the same time, cannot help feeling that the position could have been much more ably graced by one of the older members, since I am a comparative newcomer, although I have been indirectly connected with this Division of the National Veterinary Medical Association during my whole professional career. I regarded my position with some trepidation at first, but I must confess that my duties during my term of office have not been very arduous, as I occupied the chair for only a few minutes at our last meeting which, you will remember, took the form of an excursion to Speyside. Thanks to the very excellent arrangements made by our friend Major McVean, and the "weather clerk," it proved to be a most enjoyable outing. I only regret that a larger number of members could not find time to be present.

I do not propose to inflict upon you to-day a very lengthy address, for two reasons, both of which I have convinced myself are good and sufficient. The first and most important is, that our time is very limited. The second is that I consider I am unequal to the task of saying much which, in my opinion, would be of great interest to you.

You are probably all aware that I occupy the same office as our Secretary, and I chanced to see the Minute Book of this Branch which contains all its transactions from the time it was reconstituted in July, 1894, as the North of Scotland Veterinary Medical Society. I became very interested in reading all the records of our former meetings, and I was most struck with the many changes which have taken place both in our own branch and in the veterinary profession in general. The membership of our branch shows the biggest change of all, as only one of our present members attended that first meeting thirty-seven years ago. Our advance in the study of animal diseases has been very considerable since that time, and our outlook to-day is entirely different from what it then was, the differences being to a great extent due to the changes in our methods of transport, and to our sphere of activities being widened by our advent into Public Health administration.

Although we now have a much better standing than we had then, I cannot say that we are more enthusiastic than our first members were. They attended the meetings

regularly in large numbers, though perhaps, being Scotsmen, the reason for their diligence was the fact that they were fined if they failed to send a note of apology for non-attendance! I do not think it very likely that that was the reason, however, for they were undoubtedly very keen, and they found no apparent difficulty in presenting, very lucidly, papers on a great variety of interesting subjects. Two and sometimes three were read at each meeting. It is to enthusiasts such as these all over the world, that the veterinary profession of to-day holds the place it does in the advance of our knowledge in the prevention and cure of disease. We still need that same enthusiasm in our members to-day if we are to keep our place in the forward march in the study of the science of comparative medicine, and, above all, we must continue to support our National Association in every way that lies in our power, for it is only through it that we can attain and hold our place in our branch of science. Not all of us can afford to attend the Annual Meeting of the National Veterinary Medical Association, but most of our members can manage, if they wish, to attend our divisional meetings, where they obtain an opportunity of bringing forward views and experiences which may be of use to the whole profession.

I should like some of the younger members of the profession to be more regular attenders at our meetings. They may perhaps think that they know all there is to be known about their work. Perhaps they do, but they might gain something that is worth as much as mere knowledge, and that is the friendship and understanding of their colleagues, which might be very useful to them in times of trouble. One always receives help the more readily if one is personally acquainted with one's neighbour. Some may perhaps put forward the excuse that they are too busy to attend meetings, but in my experience it is usually the most successful of our practitioners, and presumably they must be the busiest, who find time to attend regularly, and this applies to the Annual Meeting of the National Veterinary Medical Association as well as to the branch meetings. One might go further and say that the reason why those practitioners are successful, is in part due to their attendance at the meetings of our Association. There is a great need for co-operation in the various spheres of our profession, for we can no longer be classed as just veterinary surgeons. We are becoming more than ever specialists in various branches, and thus more inclined to get into a rut, but we still need to hold together for the ultimate good of the veterinary profession as a whole. The danger is, that we may become too specialised and cease to remember we are first and foremost veterinarians if we do not come together at regular intervals and renew our acquaintance with each other.

Our work as veterinarians has been changing rapidly. It is no longer exclusively taken up with the cure of disease, and we are being concerned more and more with the Public Health aspect of diseases in animals and their relationship to man. The prevention of the spread of disease from animal to animal, and from animal to man, will soon become the most important branch of our work, if it has not done so already. I am of opinion that much good could be done if we took more trouble to explain to our clients some of the simple hygienic methods they should adopt in preventing the spread of disease, and explain to them how diseases can be spread, and conversely how a few simple precautions can prevent contagion. Many farmers I meet seem to be quite surprised when I inform them that tuberculosis is highly infectious, and some have only a very vague idea of how to disinfect a building. Many think a coating of lime-wash is quite sufficient to disinfect thoroughly any building!

We must become teachers as well as helpers now that our profession has reached a place of some eminence in the scientific world and since it is now definitely realised that human and animal diseases are closely interlinked. We can no longer draw a line of demarcation between human and animal pathology, and our profession is now considered to be essential to the proper workings of the Public Health Acts. We must foster this new outlook and continue to impress upon other professions that we are necessary for the well-being of the whole community. As individuals, we can all do our part to enlarge our niche in the fight against disease, but it is only by being members of one large body, the National Veterinary Medical Association, that we can make our voice heard over the whole land. For our own sakes we must keep together and be active members of the parent body, for without it we should just be as voices crying in the wilderness.

Francis Bacon wrote the following lines, which each one of us should adopt as a text:—

> "I hold every man a debtor to his profession, from the which, as men, of course, do seek to receive countenance and profit, so ought they of duty to endeavour themselves by way of amends to be a help and ornament thereunto."

Mr. Sievwright proposed a vote of thanks to Mr. Howie for his address and several of the members endorsed the sentiments expressed therein, calling for loyalty and support to our own Division and to the parent body.

Next Meeting.—The business for the next meeting was left to the Secretary to arrange.

A vote of thanks to Mr. Howie for his conduct in the chair closed the business part of the day's proceedings.

Excursion.—The members lunched together and in the afternoon set out on a visit to Kennerty Farm, Peterculter, Aberdeenshire, a noted dairy farm and also the headquarters of a famous Clydesdale stud. The members inspected the dairy herd, which is a very fine one, and is rationed on the most scientific principles. Figures of the rationing and the cost of production of the milk were freely given to the members, who appreciated very much a practical demonstration of the advantages of the rationing of dairy cattle. A demonstration of very fine fat cattle then took place, but perhaps the outstanding feature of the afternoon's visit was the parade of Clydesdales. The parade was headed by the well-known stallion "Renown" which has already had a very fine showyard career and is not yet five years old, being reserve champion at Glasgow stallion show last year. There were then paraded six yearling colts and four yearling fillies, all by "Renown." These were all of outstanding quality and the members were unanimous in saying that such a fine display of stock could not be seen on many individual farms now-a-days.

The members were then most hospitably entertained by Miss Reith, who owns the farm, and a most pleasant hour or two was spent socially.

Veterinary Medical Association of Ireland.*

Annual General Meeting.

The Annual General Meeting of the Veterinary Medical Association of Ireland was held at the Gresham Hotel, Dublin, on Thursday, January 29th, 1931. The following members and visitors were present :—Professor J. F. Craig (President), Messrs. E. V. Kelly, S. Conway, E. Finucane, A. F. O'Dea, P. F. Dolan, Sean O'Donovan, J. M. Murphy, P. G. Mullaney, T. F. O'Brien, D. Reeves, H. O'Leary, P. J. Howard, J. A. Flynn, J. P. Nolan, E. W. Little, James Doyle, M. J. MacClancy, M. O'Connor, M. C. W. McMahon, H. R. Langley, J. E. Kenny, C. M. Griffin, Professor T. G. Browne (Hon. Treasurer) and Professor J. J. O'Connor (Hon. Secretary).

The minutes of the previous Annual General Meeting were read, confirmed and signed.

Votes of Condolence.—The Chairman said that, before commencing the meeting, he wished to propose that votes of condolence be sent to the relatives of the late Mr. Creagh and the late Mr. Haines.

Mr. Creagh was an old and very highly esteemed member of the Association and a splendid type of Irish gentleman. His loss would be deeply felt by the members of the Association.

Mr. Haines was the Registrar of the Veterinary College, who had always taken a great interest in the Association.

The votes were passed in silence, all the members standing.

Correspondence.

The correspondence included communications from :—

(1) T. McDermot Kelly, J. Dodd, J. V. Carroll, M. Kilcoyne, P. McGlinchey, A. A. Donnelly and J. O'Brien (Claremorris) apologising for inability to attend the meeting.

(2) Arthur McConnell, Monaghan, enclosing subscription and tendering his resignation from the Association. It was proposed by Professor Craig, seconded by Mr. MacClancy, and passed unanimously, that Mr. McConnell be asked to reconsider his resignation.

(3) D. J. McGrath, Department of Agriculture, asking whether the V.M.A.I. propose to send a delegate or delegates to the International Dairy Congress to be held in Copenhagen in July, 1931; if so, the Department would be glad to be furnished with the names and addresses of same for transmission to the Organising Secretary of the Congress. It was proposed by Professor Browne, seconded by Mr. O'Dea, and carried unanimously that a delegate to be sent to this Congress, and that a sum of £20 be contributed from the funds of the Association towards his expenses. It was also resolved to pay the subscription to the Congress out of the same funds.

(4) B. Fitzsimon, Private Secretary to the Minister for Agriculture, acknowledging the receipt of the Hon. Secretary's letter of January 9th, 1931, informing the Minister that the V.M.A.I. had again circularised the veterinary surgeons in the Irish Free State advising them not to accept the reduced scale of fees offered by the Department for the examination of mares at mare shows.

(5) W. F. White (Boyle), thanking the Hon. Secretary for the circular letter of January 8th, *re* reduction of fees by the Department of Agriculture and complaining that the Department have taken the treatment of liver fluke out of the hands of the veterinary surgeons.

(6) F. J. Meyrick, Secretary to the Department of Agriculture, adverting to the Hon. Secretary's letter of September 30th *re* the granting of

(1) an annual holiday of 14 days;

(2) the payment of a substitute by the local authority for veterinary inspectors when absent on holidays or through illness, and stating that the Department had no objection to the granting of these concessions to the veterinary inspectors provided that certain conditions were observed (*viz.*, that sick leave is not unduly prolonged and that the amount payable in respect of the period of absence does not exceed that payable to the regular inspectors).

No action was taken with regard to this letter, the receipt of which was already acknowledged.

(7) George Hobson, M.R.C.V.S. (Waterford), enclosing subscription and asking the meeting to accept his resignation.

The Hon. Secretary was instructed to write to Mr. Hobson asking him to reconsider his decision and to remind him that it is his duty to promote the interest of his profession by supporting its Association.

(8) P. J. Howard (Ennis), enclosing a letter from the Department of Agriculture offering him a fee of £3 13s. 6d. per day and the usual travelling allowances, but no fee or fraction thereof in respect of any day on which inspection work was not done in the examination of stallions under the Horse Breeding Act and asking whether, in the opinion of the President and the Hon. Secretary, he would be justified in accepting the offer and saying that, personally, he would be prepared to do so as he could always do an inspection on the day of travel. The Hon. Secretary announced that the President and he had advised Mr. Howard to accept the offer. Their action was approved by the meeting.

(9) Sir John Moore, 16 Frognal Lane, Hampstead, N.W.3, regretting inability to attend the meeting, and saying that he was pleased to see that Colonel Ryan was coming up for election on the Council—that he was one of the best officers in France and even before that, and that he was an inventive genius in his profession and, finally, congratulating the V.M.A.I. on taking up strongly the matter of the eradication of tuberculosis.

(10) Messrs. A. Donnelly, J. McCormack and J. J. Cosgrove, enclosing communications from the Department of Agriculture offering them fees mentioned in No. 8 (the communication from Mr. Howard) to act as referees under the Horse Breeding Act, and asking if these were the fees hitherto in force and whether they would be justified in accepting them.

* Received for publication, February 20th, 1931.

Mr. Howie and other members of the Division voiced the thanks of the visitors for the exceedingly educative and pleasant afternoon which had been spent at Kennerty. All voted the outing a most successful one.

J. McAllan, *Hon. Secretary.*

The Hon. Secretary announced that he had considered the terms to be on a par with those offered to Mr. Howard for the examination of stallions and advised them to accept the terms.

Mr. Howard pointed out that this case was different from his own, as his work would extend over several days and he would always do an inspection on the day of travelling, whereas the work of referees would not permit of this being done and they might be at a loss in the performance of their duties.

It was therefore decided, on the motion of Mr. Howard, that those gentlemen who had communicated with the Hon. Secretary on the matter should now be advised not to accept these terms if they had not already done so.

(11) Mr. J. Ewing Johnston, M.B.E., J.P. (Belfast), acknowledging receipt of a vote of sympathy from the Association and returning thanks therefor.

Report of Hon. Treasurer.

Professor T. G. Browne (Hon. Treasurer) submitted a statement of accounts, showing a balance in hand of £168 19s. 4d., this being a net gain in the year of £15 10s. 6d. He pointed out that, though a reduction in the annual subscription had been suggested from time to time, this could not be contemplated at the moment, for the margin between income and expenditure was very narrow. He advised the members to arrange to have their subscriptions paid through their banks and thus avoid the trouble of writing cheques and sending along the subscriptions each year. He believed that a number unintentionally allowed their subscriptions to run into arrears simply because of neglect to send the subscriptions along when they became due. The system suggested had proved most successful in cases of other bodies such as the Royal Dublin Society and the Royal Zoological Society, and he believed it would prove a success in that Association if it were generally adopted.

The Report was unanimously adopted, on the motion of Professor Craig, seconded by Mr. J. Doyle.

Election of Officers.

On the motion of Professor Craig, Messrs. Langley and Mullaney were appointed scrutineers to count the votes in the election of officers, which resulted as follows:—

President.—Professor J. J. O'Connor.

Vice-Presidents.—Messrs. E. J. Daly and H. O'Leary.

Hon. Treasurer.—Professor T. G. Browne.

Hon. Secretary.—Professor J. J. O'Connor.

Council.—Messrs. C. M. Griffin, S. Conway, M. J. MacClancy, A. A. Donnelly and Lieut.-Colonel Ryan.

The President declared the foregoing officers elected.

The outgoing President, Professor Craig, then vacated the chair and said it was his privilege and pleasure to hand it over to Professor O'Connor, who had already done so much for the Association. He wished him a very happy term of office. (Applause.)

Professor O'Connor, on taking the chair, said his first duty was to thank the members for electing him President for the coming year. The honour came as a surprise to him, as he never expected to occupy the Presidential Chair for the second time. He hoped, with the co-operation of the members, to uphold the dignity of the position and carry out his duties in a manner that would promote the interests of the profession. An Association of that kind could wield considerable power when it was sufficiently representative and when all its members took an active interest in its deliberations and loyally supported its decisions. If all the veterinary surgeons in the Free State could only realise what a strong weapon they would have in a well-organised, representative Association he was sure that none of them would hesitate to join the ranks of the V.M.A.I. and put their shoulders to the wheel in advancing their common interests, for there was no gainsaying that when a united effort was made in any direction it was generally irresistible, but the effort must be a united one.

Referring to recent events, that Association could claim good effects from its activities. Were it not for their unceasing efforts in the form of deputations and interviews with the authorities, there would not be a provision in the Local Government Bill for the appointment of at least one veterinary officer under the Public Health Acts in each county area. A strong fight was necessary to have it added to the Bill.

By virtue of the Association's action, the reduction of fees for the examination of mares at mare shows was prevented, and the sanction of the Department of Agriculture had been obtained for the granting of an annual holiday by local authorities to their part-time veterinary officers and the payment by them of a substitute during the absence on holiday or through illness of their regular veterinary officer.

Negotiations were in progress for the redress of the grievances of the veterinary officers of the Department of Agriculture, and so far they had succeeded in procuring the establishment of all unestablished officers and in having pre-established service counted for pension purposes. Much remained yet to be done on their behalf and they were hopeful that it would be accomplished.

The advice of the Association had been sought by the Minister for Agriculture in framing the Veterinary Surgeons' Bill at present before the Dail. A Committee of the Association had conferred with officials of the Department on the question on several occasions.

During the past year many matters of interest had been dealt with at their quarterly meetings. The minutes just read showed the important work that had been carried out prior to the Annual General Meeting last year in the matter of the reflections by Messrs. Donnelly's, Ltd., on the veterinary officers engaged in their factory.

On May 7th a paper of extraordinary interest, provided by Professor Craig, Professor Kearney and Mr. Timoney, on "Ragwort Poisoning in Cattle and Cirrhosis of the Liver in Horses," was discussed. At the same meeting Mr. Healy reported an interesting case of carbon tetrachloride poisoning in sheep; Professor Craig a unique case of impaction of the bowel by worms in a five-weeks-old puppy; and Mr. Magee recorded several cases of the successful removal of superficial tuberculous lymphatic glands in cattle.

The meeting in Cork on July 25th, ably presided over by Professor Craig, was memorable as the first meeting of that Association to be held outside Dublin. The paper read there by Colonel Ryan on "Surgical Aids" was of outstanding interest. He dealt in a practical and instructive way with the use of large incisions in suppurating lesions; curbs, burns, girth galls, the use of obstetric pulleys, and

lameness due to odd feet, and exhibited interesting specimens. This was followed by a very instructive visit to the Institute of Dairy Science, over which they were kindly conducted by Professor Boyle.

He was sure they were glad he would not have to inflict an address upon them, as they had important business on the Agenda. He again thanked them for the honour they had conferred upon him.

Before proceeding with the remainder of the Agenda, Professor O'Connor said he wished to propose a vote of thanks to their retiring President, Professor Craig. Professor Craig took office during a year when he had many other important duties, yet he was never absent from any of their meetings and always went to the greatest pains in the consideration of the many questions they had to deal with.

Professor Craig suitably replied and strongly advocated all members of the profession in the Irish Free State joining the Association. He proposed a vote of thanks to the Hon. Secretary and the Hon. Treasurer and the officers of the Association. The Hon. Secretary and Hon. Treasurer suitably replied.

Election of Members.—The following candidates for membership, having been duly proposed and seconded, were unanimously elected :—Messrs. M. O.'Connor, J. O'Beirne, W. King, P. Cowley, J. Lowndes, W. F. White, Boyle, D. Reeves and McManus.

Report of Council.

A Report of meetings of Council was read, of which the following are extracts :—

At a meeting of the Council held on December 12th, 1930, the following recommendations were made towards the eradication of Bovine Tuberculosis in the Irish Free State :—

(1) *Widening the scope of the Tuberculosis Order.*
(2) *Pasteurization or sterilization of separated milk.*
(3) *Education to obtain the support of the public, stock-owners and other interested parties.*
(4) *The grading of milk.*
(5) *The accredited herd system to be encouraged.*
(6) *The restricted area plan to be carried out as far as possible.*

A Committee comprised of the President, Mr. Dolan and the Hon. Secretary was appointed to draw up a report on these lines and present it to the next General Meeting for discussion.

At a meeting of the Council, held on Wednesday, December 17th, 1930, the business was confined to a discussion on the grievances of the veterinary officers of the Department of Agriculture.

At a meeting of the Council held on January 2nd, 1931, the business included :—1. *Consideration of a letter from the Royal Sanitary Institute re* attending its forthcoming Congress and subscribing to same. It was decided to advise subscribing to the Congress and, if convenient, to ask one of the members to act as delegate.

2. *Consideration of a letter from Mr. Taylor, New Ross, re* the fees for examination of mares at mare shows.

It was resolved to circularise the veterinary surgeons in the I.F.S. as before advising them not to accept the reduced scale of fees offered by the Department, but to agree to act for the fees hitherto in existence.

3. *Consideration of a letter from the Private Secretary to the Minister for Agriculture,* in reply to the Hon. Secretary's letter of December 18th, 1930, relative to the grievances of the Veterinary Officers of the Department of Agriculture, saying that the matter is still receiving attention and that a further communication would be addressed to the Hon. Secretary as soon as possible.

4. *Revision of Rules.*—It was resolved that Mr. Dolan and the Hon. Secretary consider the existing rules of the V.M.A.I. and report to the Annual General Meeting on the question of their revision.

5. *Dispensaries for the Sick Animals of the Poor.*—On the motion of Mr. O'Leary, it was decided to call a meeting of the Central Council of the Societies for the Treatment of the Sick Animals of the Poor, on a date to be arranged by the President and Hon. Secretary.

6. *Nomination of Officers.*—The officers to fill the vacancies on the Council for 1931 were nominated for election.

7. *Date and Place of Annual General Meeting.*—The date and place of the Annual General Meeting were fixed.

Revision of Rules.—The Chairman said that Mr. Dolan and he had come to the conclusion that the time at their disposal was too short to enable them to advise any alteration in the rules. It was decided that the existing rules be observed for the coming year, after amendment, if necessary.

Report of Committee on "The Eradication of Bovine Tuberculosis."

The following Report of the Committee on the "Eradication of Bovine Tuberculosis" was read :—

Veterinary Medical Association of Ireland.

Report of Committee appointed to consider the resolutions re *the eradication of bovine tuberculosis and to report their findings to a quarterly meeting of the V.M.A.I.*

The Committee beg to report as follows :—

Basis of Report.

The following resolution was brought before the quarterly meeting of the V.M.A.I. held on November 28th, when the eradication of bovine tuberculosis was discussed by a representative gathering of the veterinary profession in the Irish Free State. The whole matter was referred to the Council for consideration and report.

Resolution.—"That due to the danger to the public and the loss to traders and agriculturists it is advisable to take steps towards the complete eradication of bovine tuberculosis."

Prevalence of Bovine Tuberculosis.

Preliminary to the consideration of bovine tuberculosis eradication, it was deemed necessary to review the evidence of the prevalence of the disease in the Irish Free State. That evidence can only be obtained from two sources : (1) slaughter-house statistics and (2) the results of tuberculin testing on a large scale. From the latter source at the present time we have no figures from which we can estimate the incidence of tuberculosis. Regarding slaughter-house statistics, the only ones which are at present available are those supplied from the Dublin Abattoir. These statistics, covering a period of five years, give the following percentages of cattle found on *post-mortem* examination to be affected with tuberculosis :—

	No. of Cattle Examined.	No. Affected.	Per cent. Affected.
Cows ...	27,179	7,857	28·9
Heifers ...	13,890	746	5·3
Bullocks ...	17,451	1,240	7·1

It has to be admitted, of course, that there is no definite evidence of the relative frequency of bovine tuberculosis in the various parts of the country. Although there are no statistics, there is, however, some evidence of its greater

frequency in some parts than in others. The incidence appears to be highest in dairy districts.

If one accepts the Dublin Abattoir statistics as representing the average incidence of the disease in various classes of animals throughout the Irish Free State, then it is highly probable that there cannot be less than 10 per cent. of the whole cattle population affected with tuberculosis.

Necessity for more Effective Control.

In view of the enormous cost involved and of the want of support and co-operation on the part of the public and stock-owners, which are absolutely essential to the success of the Scheme, any plan of wholesale eradication is at present out of the question. But there are many urgent reasons for urging the necessity for taking further steps to reduce the incidence of bovine tuberculosis. Among the more important are :—

(1) The serious danger to the public health which arises from the use of infected cows' milk, especially among children, and to some extent from the consumption of affected meat and meat products.

(2) The inadequacy of the Bovine Tuberculosis Order as at present administered in reducing to any appreciable extent the incidence of the disease. Owing to the fact that the discovery of cases coming within the Order depends on notification, many of them are not detected at all or are only recognised after they have been allowed to disseminate the infection for long periods.

(3) Losses to butchers and traders from seizure of carcasses and offals of tuberculous cattle and pigs in the course of meat inspections. It may be mentioned that 80 per cent. of condemnations at the abattoirs arise from this cause. Moreover, it is recognised that among pigs tuberculosis is largely of bovine origin and the infection probably arises from the consumption of tuberculous milk. That the disease is common in pigs is demonstrated also by the Dublin Slaughter-house statistics. Thus during a perior of 16 months, out of 73,033 pigs slaughtered 8,596, or 16·8 per cent., were found to be affected with tuberculosis.

(4) The possible effect of any Scheme directed against this disease in Great Britain, as there are reasons for believing that in the event of such a Scheme being put into operation Irish cattle may be accepted only after they have passed the tuberculin test.

(5) The loss to farmers from " piners " and from other forms of tuberculosis and from the decrease in the milk supply of affected cows. The economic losses from this disease must in the aggregate be enormous.

Suggestions for Improved Control.

The immediate steps which we would strongly recommend for more effective control of bovine tuberculosis comprise :—

(1) Widening of the scope of the Bovine Tuberculosis Order of 1926 in order to ensure the early detection and removal of as many clinical cases as possible. The Order to include the following provisions :

(*a*) The removal of all cases excreting tubercle bacilli.

(*b*) Periodical veterinary inspection of all dairy cows.

(*c*) The use of the biological test for mixed milk, so far as that is practicable, and for the purpose of supplementing the work of veterinary inspection.

(2) Effective pasteurisation of separated milk at creameries before it is returned to farmers for feeding to calves and pigs. In this way the incidence of the disease in pigs, and probably in calves, might be reduced.

(3) Education of the public and the farmer to obtain their co-operation and support in any scheme of eradication. The public must be made to recognise the necessity for demanding tubercle-free milk and meat. It must be demonstrated to the farmer that it is to his advantage to have the disease eradicated, and this can best be done by the official grading of milk.

4. Legislation to give effect to the recommendations of the Inter-Departmental Committee. The recommendations include the " grading of milk," the " accredited herd system " and the " area eradication system."

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It was proposed by Professor Craig and seconded by Mr. Dolan that the report be adopted. The proposition was passed unanimously. It was proposed by Mr. O'Donovan, seconded by Mr. Dolan, and passed unanimously that the subject matter of this Report be sent to the Press, the Executive Government and the various interested societies.

Mr. O'Donovan said that, as a member of the Council, he felt he had a slight grievance in that the Committee had not reported to the Council as they should have done. The President reminded Mr. O'Donovan that it was expressly stated in the minutes of the Council Meeting concerned that the Committee was to report to the Annual General Meeting.

Mr. MacClancy expressed the opinion that it was time that some steps should be taken towards the formation of accredited areas, and suggested that Co. Kerry would be a suitable place to make a beginning. He also advocated the appointment of whole-time County Veterinary Supervisors, part of whose duties would be to superintend and co-ordinate the work of local veterinarians engaged in this eradication scheme.

The Chairman observed that the steps suggested by Mr. MacClancy were embodied in the report just read, with the exception of the appointment of a County Veterinary Officer—a matter on which there would be much difference of opinion.

Professor Browne proposed that an addition be made to the recommendation of the Committee to the effect that cattle that have passed the tuberculin test should be segregated from other cattle on show premises.

Mr. O'Donovan said he considered the proposal out of order, as the matter was not included in the terms of reference for the Committee. Moreover, the Report had already been adopted. Nevertheless, he recognised that the segregation of tubercle-free cattle from other cattle at shows was of vital importance and he would support a resolution to the effect suggested by Professor Browne being sent to the Royal Dublin Society and other show committees.

Professor Craig thought that it would not be in order to accept Professor Browne's proposition.

Mr. Dolan, although recognising the very great importance of the precautions recommended by Professor Browne, said it would ruin the Report to add to it that recommendation. It would arouse the opposition of exhibitors of live stock to the whole subject matter of the Report, as it had done in similar circumstances in England.

Professor Browne observed that everyone seemed to agree that that was a most important matter. It was merely one of the many steps in the process of eradication and he really failed to understand the logic of those who suggested that that recommendation should be made to the Royal Dublin Society and yet omitted from their proposed scheme which was to be the basis of eradication for the country. If the proposed scheme should come before the Royal Dublin Society at any time one could well understand the Society's surprise when it found that the recommendation made directly to the Society had been omitted from the Scheme.

Mr. Little strongly supported Professor Browne's proposition.

The Chairman said he was afraid he would have to rule Professor Browne's proposition out of order, but he thought that important matter could be dealt with separately from the Report in the form of a resolution embodying Professor Browne's suggestion for the segregation of tubercle-free cattle at shows.

Professor Browne agreed to this course being adopted and eventually the following resolution, proposed by Professor Browne and seconded by Mr. O'Donovan, was passed unanimously :—

" That measures be taken to segregate cattle that have passed the tuberculin test from other cattle on the show premises."

It was also unanimously resolved that a copy of the resolution be sent to the R.D.S. and to other show committees.

Mr. J. J. O'Brien's Views.—The Chairman said he had that evening a conversation, by telephone, with Mr. J. J. O'Brien, Claremorris, who asked him to convey his apology for absence to the meeting, to inform it that he was deeply interested in the question of the eradication of tuberculosis, both as a veterinarian and as an owner of dairy stock, and that he wished to put forward the following views on the subject.

1. *Propaganda.*—That a conference, lasting a day, be held between veterinarians and other interested bodies on the subject of the eradication of tuberculosis, so as to bring the matter prominently before the public make them recognise how serious it is.

2. *Destruction of Cows Over* 10 *Years Old.*—He strongly objected to this, as cows of this age are some of the best producers. But he advocated testing all cows of this age and destroying the reactors.

3. *Pasteurisation of Milk from Creameries.*—He was absolutely convinced that the milk from creameries was the cause of the dissemination of tuberculosis in pigs that were fed upon it. Hence, all that milk should be pasteurized before distribution for feeding.

4. *Buildings, Ventilation and Disinfection.*—Cowsheds should have smooth walls, easily cleaned, be well ventilated and thoroughly disinfected when contaminated by infected animals.

5. *Tubercle-free Herds in the West of Ireland.*—He was totally opposed to an attempt to establish tubercle-free herds in the West, on account of the constant influx there of cattle from the South. But he would undertake to supply tubercle-free cattle in increasing numbers annually to replenish tubercle-free herds in other parts of the country. He could supply upwards of 40 cattle the first year and 100 the following year and so on.

Investment of Funds.

It was proposed by Mr. Little, seconded by Professor Browne and passed unanimously that £100 of the funds of the Association be invested in National Loan.

John Henry Freeman Memorial Fund.

Mr. Doyle again raised the question of the John Freeman Memorial Fund and said it was high time that steps be taken to carry out the object of this Fund.

The Chairman remarked that they were indebted to Mr. Doyle for bringing forward that matter, as most of the members were unaware of the existence of this Fund.

Professor Craig said he was recently made a trustee of this Fund and he proposed, Mr. Doyle seconded, and it was unanimously agreed, that the matter be referred to a small Committee of the Council.

Victoria Veterinary Benevolent Fund.

Mr. Howard made an appeal on behalf of the Victoria Veterinary Benevolent Fund. He spoke of the good work it was doing on behalf of the destitute members of the profession and of destitute relatives of deceased members. The amount of money distributed in that way in Ireland exceeded the contributions from members in that country.

Professor Craig and the Chairman corroborated Mr. Howard's remarks and strongly appealed to the members of the profession in Ireland to support the fund by paying the annual subscription of 10s. 6d., or by sending a donation, as there was not sufficient money in the funds to afford even small help to all the cases in dire need of assistance.

J. J. O'Connor, *Hon. Secretary.*

Etiology of Psittacosis.

G. Eigler (*Zentralbl. f. Bakt.*, February 3rd, 1931, p. 406) describes the finding of a tiny Gram-negative influenza-like cocco-bacillus in the sputum of 19 patients suffering from psittacosis and in two parrots. During the height of the disease this organism was present in enormous numbers in the sputum, and could be cultivated on blood agar; during convalescence, though it was found in some patients in large numbers, mostly intra-cellularly, it could not be recovered in culture. The organism would grow only on media containing blood; blood agar and Levinthal's medium were found the most satisfactory. For isolation, blood agar plates were best; on this medium the colonies after 24 hours appeared as clear transparent droplets 0·5 mm. in diameter; after two or three days they increased in size, became flatter, and took on a greenish tinge. Injection of parrots with pure cultures of this organism, even in small doses such as 1/100 of a loopful, gave rise as a rule to a fatal disease resembling natural psittacosis. Of great interest was the discovery that pure cultures were able to pass through Berkefeld V and N candles, though not through W candles. In the author's opinion this observation may help to bridge the gap between his findings and those of the English workers who believe that psittacosis is due to a filterable virus.—*British Medical Journal.*

Reptiles in Jersey.

The Jersey States have accepted a measure prohibiting the export from the island of green lizards, grass snakes, crapauds, and such reptiles, which, it is claimed, are peculiar to the island, and are of great use to agriculture. It was stated that many visitors to the island purchase these reptiles, which, however, cannot survive. The States also named a special committee to prepare regulations for this traffic in the island.

In Parliament.

The following questions and answers were recorded in the House of Commons recently:—

Bovine Tuberculosis.

Mr. Hurd asked the Minister of Agriculture what progress has been made with the tests in Northern Ireland and elsewhere of the efficacy of serum treatment for bovine tuberculosis?

Dr. Addison: I am informed that the Minister of Agriculture for Northern Ireland has not yet issued a report on the progress of the work being carried out by the Government of Northern Ireland. Otherwise, I have nothing to add to the reply I gave on the 5th instant to a question put by the hon. Baronet the Member for Caithness and Sutherland (Sir A. Sinclair).

Mr. Hurd: Is any progress being made in this country?

Dr. Addison: If the hon Member will put down a question about this country, I shall be glad to give him the information.

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Calmette Treatment.

Mr. Bromley asked the Minister of Health whether he is aware that supplies of the Calmette vaccine against tuberculosis are to be given to medical practitioners in this country; who is to be held responsible for the distribution of this vaccine; and whether, in view of the fact that last May this vaccine was given to 253 children in Lübeck, Germany, with the result that 73 deaths occurred and 174 were made seriously ill, he will consider issuing a warning of the dangers attending its use to the members of the British medical profession.

Mr. Greenwood: I have no information as to the distribution of Calmette vaccine to medical practitioners in this country, and I should be obliged for any particulars that my hon. Friend can give me. As stated in the reply to a question asked by my hon. Friend the Member for Brecon and Radnor (Mr. Freeman) on 17th February, it is not considered that the deaths at Lübeck were traceable to the original B.C.G. cultures, and, as particulars of these deaths and reports of the subsequent inquiries and upon the use of B.C.G. generally have appeared in the medical Press, I do not think that any further action is necessary to bring the matter to the notice of members of the medical profession in this country.

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Foot-and-Mouth Disease (Danish Bacon).

Mr. Hurd asked the Minister of Agriculture if he is aware that the Canadian Government has by order in council put an embargo on Danish bacon on the ground that foot-and-mouth disease is prevalent in Denmark; and if he is considering the means of similarly safeguarding this country from the risks of disease?

Dr. Addison: I am aware of Press reports intimating that the Canadian Government has issued such an order. I do not propose to take similar action in this country.

Mr. Hurd: Is the right hon. Gentleman basing his policy on recognition of the fact that foot-and-mouth disease exists in Denmark?

Dr. Addison: I am basing my answer on what I am led to believe is the right course to take.

Mr. Hurd: Does the right hon. Gentleman's Department know that foot-and-mouth disease is prevalent in Denmark?

Dr. Addison: Yes, my Department is fully aware of that fact.

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Highway Code.

Mr. Llewellyn-Jones asked the Minister of Transport when he proposes to lay the Highway Code before both Houses of Parliament, with a view to its being approved in accordance with the provisions of Section 45 of the Road Traffic Act, 1930?

Mr. Herbert Morrison: The preparation of the Highway Code is now complete, and I hope to lay it before Parliament very shortly.

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Victoria Veterinary Benevolent Fund.

Northern Ladies Lead the Way.

For some time now the North of England Veterinary Medical Association has had attached to it a ladies committee whose object has been to raise money for the Victoria Veterinary Benevolent Fund—and most successful have these ladies been in their efforts. On March 7th, a bridge and whist drive was held at Newcastle-on-Tyne and by this means and the raffling of various articles the splendid sum of £50 4s. 1d. was raised for charity. This result is splendid and only goes to prove what can be done when good organisation and the will to work are brought to bear. Surely this is an example that might be worthily copied by other Divisions of the National, and we shall hope to hear before long that every Division will have a ladies committee attached to it with this excellent object in view.

Both the Chairman, Mrs. J. H. Taylor, of Darlington, and the Secretary, Mrs. J. W. Rider, of Beamish, must have spent much time and put in a great deal of work, but they must feel amply repaid for this by the result achieved.

Special mention must be made of Mrs. W. A. Doughty, of Alnwick, who raised £9 8s. by the sale of a glass bowl; Mrs. F. T. Finney, of Newcastle-on-Tyne, who obtained £3 10s. for a cake; and Mrs. F. Pickering, of Hexham, who enriched the fund to the extent of £1 9s. by the sale of love birds. The above are quoted as instances of how money may be obtained.

In addition to the £50 collected by the ladies, the North of England Division have forwarded a further cheque for £5 5s., so that this Division, which only numbers 47 members, has given £55 9s. 1d. to the Victoria Veterinary Benevolent Fund in one year. That the hearts of the officials of the Fund are gladdened goes without saying and they are now hoping that the other Divisions will try to emulate the Northern ladies lead and, in the meantime, they express their very deep appreciation of the work of Mrs. J. H. Taylor and her committee.

Performing Animals.

Mr. Freeman asked the Home Secretary the number of local authorities who have taken advantage of the Performing Animals (Regulation) Act of 1925 to appoint officers to visit places where performing animals are trained and exhibited?

Mr. Clynes: I would remind the hon. Member that the Act provides (Section 3 (1)) for inspection either by the police or by any officer of the local authority duly authorised in that behalf. I have no particulars of such authorisations. In many places the inspection is done by the police. In these circumstances, I do not think that any useful purpose would be served by circularising the local authorities for details of authorisations.

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Performing Animals (Regulation) Bill.

Mr. Freeman asked the Prime Minister whether he will provide facilities for the passing into law of the Performing Animals (Regulation) Bill?

The Prime Minister: I regret that I can hold out no hope of time being found for this Bill.

N.V.M.A. Congress at Norwich, August 22nd-28th.

List of Recommended Hotels.

NORWICH HOTELS.

Maid's Head and Royal Hotels.—18s. 6d. single and 36s. double rooms per day. These are special terms for those attending Congress. *Accommodation*: Maid's Head, ten single and six double rooms. Royal Hotel, 25 single and 12 double.

Lansdown Private Hotel, Thorpe Road.—Terms: £3 3s. per week. *Accommodation* for ten.

Annesley Private Hotel, Newmarket Road.—Two to three guineas per week or 12s. 6d. to 14s. 6d. per day. *Accommodation*: five double and 12 single.

"Heathcote," Unthank Road.—£4 4s. per week single; £3 15s. per week double; 12s. 6d. per day. *Accommodation*: 14 single or double.

"Evening Hill," Cambridge Street.—£4 4s. per week single, inclusive; £6 6s. per week double, inclusive. *Accommodation*: 20.

Oxford House, 3, Princes Street (opposite St. Andrews' Hall).—10s. 6d. per day, £3 3s. per week. *Accommodation*: 6 single or double.

Roxley Hotel, Thorpe (1½ miles from City).—10s. 6d. per day, 2½ guineas per week. *Accommodation*: 3 double and 2 single.

WROXHAM (seven miles from Norwich).

Keys Hill Hotel.—£1 1s. per day or 12s. 6d. bed and breakfast (unlicensed).

GREAT YARMOUTH (21 miles from Norwich).

Queen's Hotel.—Double rooms, 18s. to £1 1s. per head; single rooms from 17s. 6d. These are special inclusive terms for a stay of not less than four days.

Victoria Hotel, Marine Parade, South.—17s. 6d. per day and from £5 15s. 6d. per week.

GORLESTON-ON-SEA (23 miles from Norwich).

Cliff Hotel.—£1 1s. per day; £7 7s. per week.

Pier Hotel.—From £5 5s. per week.

LOWESTOFT (27 miles from Norwich).

Hotel Victoria.—£6 6s. to £8 8s. per week.

Esplanade Hotel.—£4 4s. to £6 6s. per week; 15s. to 18s. per day (unlicensed).

CROMER (22 miles from Norwich).

Marlborough Hotel.—£5 5s. to £7 7s. per week.

Hotel de Paris.—From 7s. 6d. single and 14s. double bedrooms. Breakfast, 3s. 6d.; luncheon, 4s.-4s. 6d.; dinner, 6s.-6s. 6d.

A camera which costs £160, which is in the from of a tiny cylinder about 2-in. long and ⅝-in. thick, and which takes 16 plates, each the size of a snip out of a tram ticket, in 20 seconds, is reported to have been used successfully at a London hospital last month. The camera is swallowed, and the plates are taken by means of a 200,000 candle-power flash produced electrically inside the cylinder, part of which is of unbreakable glass. The 16 plates are each 10 by 12 millimetres. They are assembled so as to form a photograph of the entire wall of the stomach, and the photograph itself is then magnified 100 times ready for expert investigation. Diagnosis of cancer of the stomach and other complaints will be, it is hoped, made easier by this camera.

The Hon. Robert Weir, Minister of Agriculture for the Dominion of Canada, says that in cold weather farmers favour the tractor; but in the fall, when they receive their gasoline bills, they favour the horse with its home grown fodder.

Royal Army Veterinary Corps Point-to-Point Association.

1.—The annual race will be run this year at the Hambledon Hunt Point-to-Point Races at Liss, Hants (three miles from Bordon—three-quarters of a mile from Liss Station, Southern Railway), on April 11th, 1931.

2.—Conditions of the race:—

The race, which is for the Royal Army Veterinary Corps Point-to-Point Challenge Cup, is open to serving and retired officers of the Royal Army Veterinary Corps and Territorial Force. Retired temporary officers of the Corps may be permitted to enter as honorary members subject to acceptance by the Committee.

For horses the property of, or Government chargers and troop horses hired since March 1st, 1931, by officers R.A.V.C., which have been regularly and fairly hunted with a recognised pack of hounds or military drag-hounds.

No horse is eligible to run that has ever won a race of any description (Point-to-Point, *bona fide* Hunt and Military races excepted).

Winner to receive Challenge Cup, 75 per cent. of sweepstakes and replica of the cup. Second to receive 25 per cent. of sweepstakes.

To be ridden by those qualified to enter.

Weight: 12 st. 7 lb.

Winner of a Point-to-Point, *bona fide* Hunt or Military race since January 1st, 1929, to carry 7 lb. extra; of two or more such races, 10 lb. extra.

Entrance Fee: One Sovereign.

3.—Arrangements for the stabling and forage of horses and accommodation of grooms at Aldershot or Bordon will be made on application to the Hon. Secretary at the time of entry.

4.—Financial assistance will be given to officers entering, whose horses are normally stabled outside a radius of 30 miles from Liss, such assistance not to exceed £4.

5.—A Corps Tea Tent is available on the course for the use of officers and their friends. Tickets, price 2s. 6d. each, can be obtained in advance from the Hon. Secretary or from R.A.V.C. Tea Tent Office on the course. It is requested, however, that tickets be purchased one month prior to the meeting in order that some idea of the number to be catered for may be obtained.

6.—In order to ensure the success of the race the Committee ask that all officers who are able to do so will make every endeavour to enter a horse. Entries, giving name of horse (Army Number in case of a Government charger or hired troop horse), colour, age, sex, owner and name of Hunt issuing the certificate, together with entrance fee, should reach the Hon. Secretary on or before April 4th, 1931, on which date entries close. Address of Hon. Secretary: Station Veterinary Hospital, Aldershot, Hants.

Exemption from registration of premises from which bottled milk only was sold resulted in a great deal of milk being sold from unsatisfactory mixed-business shops in Blackburn in 1929, and in his annual report Dr. V. T. Thierens, Medical Officer of Health, points out that many of these shops sold such commodities as paraffin oil, firewood, chandlery, and potatoes, the nature of the premises and the class of trade carried on being such as would preclude registration. Dr. Thierens argues that bottled milk is certainly less likely to be contaminated than loose milk, but to allow premises which sell bottled milk only to be exempt from registration makes it difficult to raise the standard of ordinary milk-retailing premises.

Scotland has an unenviable record for anthrax. In the four weeks ended February 15th there were 24 outbreaks in Scotland, 23 in England, and one in Wales. England had 37 cases of sheep scab, Wales 29, and Scotland none.

The animal population of Scotland in 1930 was 156,316 horses, 1,235,999 cattle, 7,649,551 sheep, and 143,269 pigs.

Salaries in the Far East.

What the Dollar is Really Worth.

This note is reproduced from the *Penang Gazette* of February 11th, in the belief that graduates who contemplate service in the Far East will find of value the information given :—

The following letter was recently addressed by Mr. Charles Watney, London representative of the Incorporated Society of Planters, to the Editor of the *Financial News* :—

Sir,—A few days ago you were good enough to print a letter from me with regard to the inadvisability of anyone going out to the Far East at the present time to obtain employment on plantations unless he was sure of a definite appointment.

As I have received an extremely large number of replies, and the subject seems of wide interest, may I make a further point with regard to the salaries offered to beginners in the planting world and the optimism that is so often felt by men at being offered starting pay of 200 Straits dollars (£23 10s.) a month.

They do not seem to realise that the cost of living out in the East is vastly higher than it is in this country, and that the real purchasing power of the Straits dollar, far from its quoted value of 2s. 4d., is in practise something approaching 1s. On this basis the salary of $200 a month becomes worth £10 instead of £23 10s.—a very different matter.

Problem of Children.

Too often, even those responsible for making the appointments and fixing the salaries are unaware of the living conditions which obtain out in the East. Food and clothing are all more expensive out there and suitable cheap lodging accommodation is difficult to find. Servants and transport are also of necessity very substantial items in the most restricted budget. Finally, should the man marry and have children, the latter will have to be sent back to Europe for their education.

I make these points because I think a great many of the hardships of young Britishers out East could be avoided were it more generally realised, both by the youthful applicants and the boards of directors, that you cannot estimate salaries by basing them on the quoted sterling value of the Eastern dollar.

Algerian Flocks Halved by Drought.

Sufficient information is now available to assess the losses caused by the drought in the Algerian flocks. In 1930 there were 7,200,000 sheep in Algeria. By January 1st, 1931, half of these had died.

The mortality is continuing at so regular a rate that by the end of March, when all likelihood of unsettled weather will have passed, another fifth of the remaining 3,600,000 will be dead. The others are so undernourished that they have lost half of their value, and can never become fit for fattening and selling at a reasonable profit.

Hence there is altogether a loss of some four-fifths of the actual value of the Algerian flocks. Sheep-breeders are pressing the Government to prevent a recurrence of this disaster by providing a sound water supply. At present during a drought water is carried in tanks on motor lorries. —*The Times.*

Pasteurisation of Milk.

Under the above heading, the following letter appeared in *The Lancet* of March 7th :—

" Sir,—The great weight carried by the signatories to the letter in your issue of December 15th, 1930, undoubtedly makes one hesitate to question their views on pasteurisation, but I venture to suggest that there are important points to consider.

" First, the question of vitamins. A short time back no one was aware of their existence; is it not possible that there are other vitamins or their equivalent half-sisters existing in milk? Some changed state in milk there certainly is after it has been pasteurised; the difference can be sensed by nose and tongue, and it will go sour much quicker than sound unpasteurised milk. Granted that drinking pasteurised milk may cause no apparent harm during adolescence, may it not be the precursor of certain phases of later disease such as premature caries.

"Secondly, the method of pasteurisation, for the milk must be evenly heated, not overheated in one place and underheated in another. It is questioned by many whether pasteurisation as carried out commercially does completely sterilise the tubercle bacillus. Diseased milk is contaminated either from the cow or from man. The main dangers from the cow arise either from bovine tuberculosis, mastitis, or contagious abortion. The danger of undulant fever from the last-named is still, I believe, a matter on which the medical mind is open.

" One would have thought that the causative bacteria of bovine mastitis (excluding T.B.) conveyed by milk would be a frequent source of disease in man, considering that herds of milk-cattle on farms are rarely free from mastitis either in the acute or chronic form. The commoner bacilli of bovine mastitis include both staphylococci and streptococci, and of the latter both the hæmolytic and non-hæmolytic varieties. Although these may sound formidable sources of trouble, it can be confidently asserted that cocci which are pathogenic to cows' udders are non-pathogenic to man. The only danger would arise when the udder infection was of human origin.

"I believe that the pasteurisation or non-pasteurisation of milk requires further consideration. Would it not be more helpful to endeavour to improve the quality of milk at its source, in a way similar to that in which our water supply is treated, rather than to endeavour to clean milk, already bacteriologically dirty, by pasteurisation? I have been informed on good authority that some of the victims of the recent outbreak of septic poisoning, traced to milk as the vehicle, were regular drinkers of so-called pasteurised milk.

I am, Sir,
Yours faithfully,
William S. Stevens, M.R.C.V.S."

February 28th, 1931.

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The Times of March 9th published the following letter from Dr. R. Stenhouse Williams, of the National Institute for Research in Dairying, Reading :—

" Sir,—The subject matter of your editorial on " Boiled Milk " is of such grave national importance that I shall be grateful if I may be allowed the hospitality of your columns once more.

"You state that 'there is nothing to show that boiling it destroys any quality of value in the milk,' and the article appears to have been written on the assumption that boiled or pasteurised milk may be regarded as of equal nutritional value. Modern research is demonstrating that the nutritional value of rapidly boiled and cooled milk, which is immediately fed, is not diminished as much as that which has been pasteurised by the usual method. It is also showing that any heat treatment of milk causes variations in many of its constituents which have not hitherto been appreciated. It is known that some of these variations are of importance to nutrition. The effects of others have yet to be fully studied. In addition it is being found that the altered constituents cannot readily be replaced. The time has arrived, therefore, when an adequate study of the relative nutritional values of the different types of milk which are on sale ought to be carried out in the interests of the nation and of agriculture. Such a study is of peculiar importance to our industrial nation, for there is increasing evidence that not only in this country, but also in other countries, the peoples are suffering from under-nutrition which is insufficient to produce actual disease, but does affect their physique and probably also their ability to resist disease.

"The problem might well be considered from two different points of view—on the one hand, the present position of our knowledge concerning the true food values of different types of milk and the steps which should be taken to increase that knowledge; on the other hand, a consideration of the influence upon the prosperity of agriculture and the future of veterinary medicine if it were found that fresh foods were of real importance to the maintenance of the physique of the nation.

"It seems that the first of these suggestions might well be undertaken either by the Medical Research Council or by the committee which the Government has recently set up to study the nutrition of the nation. The whole problem is far too important both to the nation and to agriculture to be allowed to rest in its present unsatisfactory condition.

"May I add that the part which this institute is taking in this discussion is governed entirely by the desire to try to help the milk industry so to control its work that it may be not only profitable to itself but of the highest value to the nation?"

Notes and News.

The Editor will be glad to receive items of professional interest for inclusion in these columns.

Diary of Events.

March 23rd.—Meeting of the Editorial Committee, N.V.M.A., 10 Gray's Inn Square, W.C.1, 4.30 p.m.

March 25th.—Joint meeting of the Sections of Comparative Medicine and Epidemiology, of the Royal Society of Medicine, 1, Wimpole Street, W.

March 26th.—Meeting of the Dumfries and Galloway Division, N.V.M.A., at Carlisle.

April 2nd.—Meeting of the Central Division, N.V.M.A., at 10, Red Lion Square, W.C.1.

Aug. 22nd-28th.—N.V.M.A. Congress at Norwich.

Professor James Macqueen.

Following upon our announcement last week of the success of the operation recently performed upon Professor James Macqueen at the Hampstead General Hospital, we are glad to be able to inform our readers that the satisfactory progress we were in a position to report as we went to press has been well maintained.

Should Professor Macqueen's condition continue to improve as hitherto, and this is confidently anticipated, his health should be completely restored in a month's time, though in the meantime, his stay in hospital is likely to be somewhat prolonged.

Irish Free State Veterinary Inspectorships.

Advertisements inviting applications from members of the Royal College of Veterinary Surgeons for vacancies as Veterinary Inspectors under the Department of Agriculture, Irish Free State, are now appearing in the lay press.

Intending applicants are advised to communicate with the General Secretary, N.V.M.A., 2, Verulam Buildings, Gray's Inn, W.C.1, before proceeding in the matter.

Our American Colleagues' Great Loss.

Deaths of Dr. Veranus Moore and Pierre Fish.

It is with great regret that we have heard of the death of Dr. Veranus A. Moore, formerly Dean of the New York State Veterinary College at Cornell University, which took place on February 11th, following an operation in the Ithaca Memorial Hospital. Dr. Moore was a former President of the American Veterinary Medical Association, and was among those few outstanding veterinarians on whom the Royal College last year conferred the diploma of Honorary Associate.

This great blow to the American veterinary profession was succeeded within eight days by another, in the death of Dr. Pierre A. Fish, successor of Dr. Moore as Dean of the College, who took up office in June, 1929. Dr. Fish was one of the reporters on milk fever to the recent International Veterinary Congress, but was unable to attend owing to pressure of other work.

We send a message of sympathy to our American confrères in the great bereavement they have sustained in the death of these two great men.

R.C.V.S. Obituary.

Giblin, Michael Thomas, 75, Wallgate, Wigan, Lancs. Graduated Glasgow, December 22nd, 1897. Died March 5th, 1931, aged 65 years.

Personal.

Mr. Eustace Montgomery, the Adviser on Animal Health to the Secretary of State for the Colonies, is leaving on March 26th for British Guiana, and hopes to visit the various West Indian Colonies prior to his return about the middle of June. This tour is being undertaken by the direction of the Secretary of State, in conformity with the recommendation of the Committee on the Colonial Veterinary Service, appointed under the Chairmanship of Lord Lovat in 1927, that his Adviser should keep in close touch with the activities of veterinary departments by means of periodical visits to the Colonies.

It is anticipated that Mr. Montgomery will visit the West African Colonies in the autumn.

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Mr. W. H. Blackburn, South Hetton, who, on March 7th, was elected president of the North of England Veterinary Medical Association, is a native of County Durham.

For 20 years he has been full-time veterinary inspector of the South Hetton Colliery stud of ponies. Mr. Blackburn about 25 years ago, was president of a similar association, which carried on under the title of the "South Durham and North Yorkshire Veterinary Association."

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At a recent meeting of the Yorkshire Branch of the Society of Medical Officers of Health, on the recommendation of the Council it was unanimously agreed that a hearty invitation be conveyed to Major D. S. Rabagliati, O.B.E., B.SC., F.R.C.V.S., D.V.S.M., Chief Veterinary Officer, West Riding County Council, to act as the representative of the veterinary profession on the Council of the Branch. In conformity with the Articles of Association of the Society, Major Rabagliati will be precluded from voting, and his position on the Council will be unofficial. Notwithstanding this, the opinion of the Branch members is that this arrangement will be mutually advantageous.

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Will.—Porteous, Major Richard, M.R.C.V.S. (51), late Royal Army Veterinary Corps, of Southsea, Hants, formerly of Maybole, Scotland (net personalty, £519), £1,884.

H.M. Stationery Office Publication.

The undermentioned has been published recently. Copies can be purchased through any bookseller, or directly from H.M. Stationery Office, at the following addresses:—London: Adastral House, Kingsway, W.C.2, and 28, Abingdon Street, S.W.1; Cardiff: 1, St. Andrew's Crescent; Manchester: York Street; Edinburgh: 120, George Street.

	Price Net.	*Post Free.*
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Medical Research Council:—		
Special Report Series:—		
153. Diet and the Teeth. An Experimental Study, Part II: (A) Diet and Dental Disease; (B) Diet and Dental Structure in Mammals other than the Dog. November, 1930. (45-5-53-0)	2 6	2 9

Correspondence.

Letters to the Editor should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.

All correspondence must bear the name and address of the contributor for publication.

The Editor does not hold himself responsible for the opinions of his correspondents.

Reorganisation of Professional Examinations R.C.V.S.

To the Editor of The Veterinary Record.

Sir,—After a careful study I have found a certain novelty in the scheme before Council R.C.V.S. proposed by Dr. Whitehouse for the "reorganisation of professional examinations" (this journal, page 157). It may possess other merits which, through my ignorance or lack of intelligence or both, I fail to appreciate. Since the schools have been invited by council R.C.V.S. to express their views upon the scheme, it seems to me unfortunate that the proposer's observations in favour of his scheme and such other remarks of Council as may be germaine to the discussion have not been reported for our guidance.

Consequently, might I prevail upon Dr. Whitehouse kindly to set forth in your columns (1) the disadvantages to the examiners, examinees and schools of the existing regulations; and (2) how these disadvantages may be remedied by his proposals. Until this information has been suitably given I do not understand how council R.C.V.S. can reasonably anticipate the receipt of well-informed opinion from those they have thought well to consult.

I am, Sir,
Your obedient Servant,
Tom Hare.

Department of Pathology,
Royal Veterinary College,
London, N.W.1.
March 13th, 1931.

Dubbing of Poultry.

To the Editor of The Veterinary Record.

Sir,—In reply to Mr. G. C. Lancaster's somewhat remarkable letter on this case, I cannot refrain from a little friendly if controversial criticism. As he appears to pose as an expert on the subject (which I do not claim to be) I would ask him if dubbing is at any time a surgical necessity? Surely, as a very up-to-date surgeon, he does not suggest that any of the following reasons are justifiable ones for performing this, in my view, very painful and cruel operation without an anæsthetic:—(1) that it prevents frostbite; (2) that it prevents birds fighting; (3) that it increases fertility; which were the only reasons given by the defence for inflicting this cruelty.

When Mr. Lancaster says "there is very little sentiment attached to birds," he suggests that if done for commercial gain, that cruelty is then justifiable, *i.e.*, if you can make money out of it. Few right-minded poultry keepers would support him in this unprofessional theory.

He says he cannot name an operation which is not cruel, "if dubbing is cruel," which I think it is *undoubtedly*, but I do not agree with him that you cannot "cut a dog's nails without inflicting cruelty"—that is hardly a statement one would expect from the ultra-modern veterinary surgeon.

His advice to me, to try Milton for sterilising instruments in preference to boiling, I shall not adopt, although he says the human surgeons set such a brilliant example in this respect: I should expect the edge of scalpels, scissors, etc., to be seriously damaged if left in a bleaching solution of this kind for any length of time, and I also have the greatest dislike for using patent nostrums of any kind.

The operations upon young lambs, pigs, calves, colts, etc., are absolutely necessary for our existence, but are nevertheless cruel; it is, however, a cruelty that cannot be avoided: no one in his right mind would say that dubbing is unavoidable or caponising, or forcible feeding of geese to produce fatty livers for the gourmand.

Of course, healing of wounds after *necessary* operations is painful! We have all had to put up with that. I have endured four major operations, and know it only too well.

He finally suggests that "clipping a horse will necessitate the use of chloroform," under possible new laws. I was not aware that this was a painful operation, and am sure the majority of animals rather enjoy it; plucking and trimming dogs, as they are shown nowadays, is another matter.

I have no doubt that we shall always have members of the veterinary profession who will support the R.S.P.C.A. in cases where they believe unjustifiable cruelty has been inflicted. It is our duty as a profession to prevent cruelty to animals of any kind, and I am looking forward to an early revision of the Anæsthetics Act by a Bill which I hope will include provisions to prevent any but properly qualified veterinary surgeons performing painful operations on animals, unless they are under a local or general anæsthetic, with necessary exceptions I have previously quoted.

Yours faithfully,
F. J. Taylor, *Major.*

Oxford.
March 16th, 1931.

The Editor acknowledges the receipt of the following:—

Report of a meeting of the North Wales Division, N.V.M.A., from Mr. Howel V. Hughes, Hon. Secretary.

Communications from Mr. J. D. Peele (Durham) and Professor G. H. Wooldridge (London).